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ABSTRACT

The economic impact of the University of Wisconsin-Madison (UW-Madison) on Dane County and the State was studied during 1983-1984. The overall economic impact of the university consisted of direct spending impact of purchases, taxes, and donations, plus the indirect impact of that money circulating through the community to be respent on other purchases and payments. The direct impact of five expenditure categories (construction and spending by the university, employees, students, and visitors) was an estimated $628.5 million a year, of which $533.2 million went to local businesses. Considering the circulation of that money, the estimate for the total direct and indirect impact of the university on the county economy was $1.41 billion a year. It was estimated that about 3,000 public sector jobs and more than 9,500 private sector jobs were the result of the university's direct spending, while at least 5,300 private jobs were due to indirect effects. In addition, the university employed 21,677 regular and student employees. Appendices include: information on benefits to the state provided by UW-Madison hospital and clinics; survey questionnaires for faculty/employees, students, football fans, parents, and visitors, and a four-page selected bibliography. (SW)

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GRADUATE SCHOOL OF BUSINESS

UNIVERSITY OF WISCONSIN -MADISON

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THE UNIVERSITY OF WISCONSIN-MADISON AND THE LOCAL AND STATE ECONOMIES: A SECOND LOOK

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by

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Monograph No. 20
March, 1985

THE UNIVERSITY OF WISCONSIN-MADISON AND THE LOCAL AND STATE ECONOMIES: A SECOND LOOK

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EXECUTIVE SUMMARY

Until now, the most recent comprehensive study of the economic impact of the University of Wisconsin-Madison on its home community of Dane County was published in 1971. Issued by the University's Bureau of Business Research in the School of Business, its discovery of a $200 million direct impact and $450 million total impact (counting multiplier effects) surprised many. Since then, superficial updates have been issued from time to time by adjusting for inflation, enrollment, and employment changes.

The present study was funded by UW-Madison's Graduate School as a completely new look at the University's economic impact on Dane County. Conducted during 1983-84, it corrects some deficiencies of the original effort, especially in research design and estimations of visitor spending. It is important to recognize, however, that the dollar estimates in this study are, in fact, estimates. They were developed using reasonable procedures based on the limits of time, money, and other resources. The authors believe these estimates are conservative, and fairly represent the reality of the millions of individual transactions that lie behind them.

UW-Madison has an enrollment of about 44,000 students and a payroll of about 21,000 employees -- of whom almost 9,000 are students. This University community, including employee families, consists of about 80,000 persons. They are by far the largest single influence on a local economy made up of a city of 173,500 people and a county of 332,600.

If UW-Madison were viewed as a business, it would be Wisconsin's largest employer. This study looks specifically at UW-Madison as an economic entity that pays employees, attracts visitors, and purchases goods and services. The study itself was designed as several coordinated research projects looking at every major segment of the University community. University spending was

examined by looking at all UW-Madison invoices from the 1982-83 academic year. Students, employees, and visitors were surveyed separately in the fall of 1983 using many common questions.

UW-MADISON SPENDING

The largest UW-Madison expenditure category was wages and salaries to faculty and staff members, $272.1 million. Fringe benefits added a tax-free $41.1 million, all of which was placed in Wisconsin and $9.9 million of which was placed in Dane County.

Invoices detailed a total of $34.3 million in purchases of supplies, services, and equipment from local businesses, plus another $1.5 million in payments to local government or households. Construction spending traced to Dane County added $14.5 million to the local economy.

EMPLOYEE SPENDING

In total, University employees (nonstudents) spent an estimated $185.9 million with local businesses during the 1983-84 fiscal year, with another $21.7 million going to local government and $29.1 million to local households and charities. Surveys found the average employee household spent $19,873 locally that year, or $1,656 a month, with the largest monthly outlays being for rent or mortgage ($272 to $319), property taxes ($1,674 a year), groceries ($206), gasoline and auto service ($100), and insurance ($79 to Dane County companies).

On an annual basis, the $236.7 million in employees' local spending was distributed thusly: construction repairs, $10.3 million; utilities, $15.0 million; personal and business services, $7.0 million; finance, insurance, and real estate, $39.4 million; other local businesses, $114.2 million; local government, $21.7 million; local charities, $6.3 million; and local households,

$22.8 million. Local financial institutions held about $17 million in employee checking accounts and $104.6 million in employee savings accounts.

STUDENT SPENDING

If it were not for students, there would be no university. A November 1983 survey asked them to detail their monthly spending. The results were then corrected for differing spring and summer enrollments.

Not including money paid to the University (all such payments are excluded from this study), the average student spent $547 a month locally. The annual spending total for all students was $201.6 million.

Landlords received the largest single share, an estimated $41.3 million. Local food stores received about $24.4 million; restaurants and bars, $17.8 million; and utilities, $17.6 million. Local financial institutions held student checking and share draft accounts totalling about $18 million, and there was another $40 million in student savings accounts.

Because 23 percent of UW-Madison's students are from outside Wisconsin, about $46.4 million of student spending was "imported" into the state because of the University.

VISITOR SPENDING

Based on a series of surveys, it is estimated that nearly two million out-of-county visitors spent 4.6 million visitor-days in Dane County during the 1983-84 academic year because of UW-Madison, clearly making the University one of the state's major visitor attractions. They came to attend athletic contests, seminars, or other events; to visit their children, friends, or hospitalized relatives; or to conduct business. They spend about $139.9 million, with $38 million of that coming from outside Wisconsin.

The most significant economic impact from visitors came from friends of students, who spent an estimated $45.5 million that year. People in Dane County on University-related business spent about $41.6 million; the friends of University employees, $27.3 million; parents, $19.2 million; and athletic event visitors, $6.3 million. Once again, the figures exclude payments to the University itself such as ticket purchases and seminar fees.

Of total visitor spending, $54.1 million went for food and drink. Other major expenditure categories, each more than $10.8 million a year, were department stores, clothing, lodging, gasoline and car repairs, and furniture and appliances.

THE TOTAL IMPACT

The overall economic impact of UW-Madison is made up of the direct spending impact of purchases, taxes, and donations, plus the indirect impact of that money circulating through the community to be respent on other purchases and payments. This report considers both impacts, and determines the indirect impact using "multipliers" that estimate the proportion of money that recirculates in each economic sector.

The direct impact of the five categories studied -- institutional spending, construction, employee spending, student spending, and visitor spending -- was an estimated $628.5 million a year, of which $533.2 million went to local businesses. About $89.0 million of that was spent within the finance, insurance and real estate industries. Another $81.1 million went to eating and drinking places, $61.6 million was spent on auto sales and service, $53.8 million in food stores, and $46 million on transportation, communication, and utilities.

Considering the circulation of that money, the estimate for the total direct and indirect impact of UW-Madison on the Dane County economy is $1.41 billion a year.

This estimate is based on an overall multiplier of 2.24. Because no multipliers exist for Dane County, this study uses multipliers calculated for Wisconsin's Door County. The authors maintain that the use of these multipliers represent a conservative approach because Door County's economy is less sophisticated than Dane County's.

With multiplier effects, it is estimated that almost half of Dane County's sales in clothing stores, a third of sales in restaurants, bars, and food stores, and over a quarter of sales related to building materials, personal and business services, department stores, and auto sales and service is generated by the University community.

This spending can be directly translated into jobs, and by that measure the total economic impact of UW-Madison is worth about 18,000 Dane County jobs over and above those people directly employed by the University.

Of those non-University jobs more than 9,500 jobs in the private sector are the result of the University's direct spending impact: at least another 5,300 private sector jobs are due to indirect effects. The greatest impact, about 4,300 jobs, is among eating and drinking establishments. About 3,000 are in the public sector. Almost 1,900 are in personal and business services. More than 1,000 jobs each are in the construction industry, department stores, and food stores.

Combined with a University employment of 21,677 (regular plus student employees), that means that a total of more than 40,000 Dane County jobs are due to UW-Madison.

While this study has stressed the University's economic impact on Madison and Dane County, there are statewide effects as well.

UW-Madison's out-of-state visitors, for instance, have a total impact of $188 million a year on Wisconsin. There certainly would be a loss of Wisconsin

student spending to other states if UW-Madison did not exist or were not as strong an institution. A certain percentage of money spent within Dane County also "leaks" into the rest of the state, and a rough estimate suggests this impact in the hundreds of millions of dollars. In addition, a recent study indicates that the University's graduates have had $27 billion added to their lifetime earnings because of their UW-Madison education.

Other aspects of UW-Madison's presence in Dane County and Wisconsin to which dollar amounts could not be easily attached include its role as a factor in new business location decisions and the diversity of Madison retailing, as a source of employment and consulting talent for local firms, as a recreational resource, and as an addition to the community's cultural life because of the richness of its theaters, museums, and libraries.

The authors expected no real surprises in conducting this study. However, the size of the visitor impact and the strong role of University Hospital and Clinics were indeed surprising. One of this study's recommendations is that the Hospital deserves a study of its own.

Other recommendations parallel those of the original 1971 study, namely:

-- Economic planners should carefully consider UW-Madison's role when drawing up their plans;

-- The University should examine what can be done to increase the percentage of purchases made locally and in-state; and

-- This study should be repeated periodically.

It is almost a platitude to say that the University, local community, and the state are interdependent, but in the midst of occasional controversy the mutualities can be overlooked. The authors hope this study has generated a renewed appreciation of the "bucks" that exist because of Bucky Badger.

ACKNOWLEDGEMENTS

Imagine assembling a large jigsaw puzzle under the following conditions:

> The puzzle has several hundred pieces. Each piece can only be obtained by asking a different person for it, and each person is located in a different place. You only know who some of the people are and are unsure where to locate others. A percentage of the pieces don't exist at all, and have to be manufactured, but you're not aware of this until you've asked a number of individuals and searched at several locations. Numerous pieces take months to locate. Once the needed pieces have been acquired and you have begun to assemble them, you discover that there are still quite a few gaps. There are major sections of the puzzle that can't even be assembled until some of these gaps are filled. For several of the gaps, there is more than one piece that is equally appropriate, and you're not sure which one to use. Other pieces just don't fit at all, so you have to go back and get replacements.

In assembling the data for this "puzzle," a twenty-month task, we acknowledge the contribution and assistance of a great many individuals, both within the University community and outside of it. Many names are omitted from mention below, only because of the sheer impracticality of thanking everyone by name who helped.

Initial gratitude is owed to Chancellor Irving Shain and Graduate School Dean Robert Bock, who commissioned and funded this study.

Virtually every department in the University contributed to the final product, either by completing surveys or contributing data. Of particular help to us were Ralph Martens, Business Services; Richard Laufenberg and Bob Brown, Payroll and Staff Benefits; Herbert Evert and Richard Jahnke, Office of the Registrar; John Folstad, Office of Information Services; David Fjeldstad and Paul Tierney, Wisconsin Center; Ralph Neale and Wayne Kuckkahn, Athletic Department; William Davis, Associate Vice Chancellor of the Center for Health Sciences; James Farrell, University Hospital and Clinics, and Alton Johnson, Roger Formisano, Jim Johannes, Leslie Peckham, and Mike Robbins, School of Business.

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Kathy McCord performed tirelessly and cheerfully as we continually asked her to revise our working manuscript. Jean Knowles maintained order and provided ongoing clerical expertise.

Several business students contributed to the research. Artace Kelting deserves credit for skillfully conducting the surveys of students and employees. Steven Barry is largely responsible for the contents of Chapter 2 and for sorting the University's diverse purchases into a usable framework. Sondra Peck and Julie Stevens assisted enthusiastically with data coding and acquisition.

Mark Rosen, a doctoral student in Industrial Relations, assumed the major role of research project manager. His management style emphasized careful planning and the delegation of well-defined assignments to his staff. His personal review of work assignments, analysis of the several streams of data, and written work in the final report are strong evidence of his personal abilities. I was fortunate to have employed him as the lead graduate assistant for this project. In addition, he made numerous suggestions that added to the quality of the final research product. He deserves great credit for his many contributions.

Jorgene Kramer also deserves special mention for her consistent excellence in working with us on the day-to-day requirements of data acquisition and analysis. For this reason, we have included her as one of the authors.

William A. Strang

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PREFACE

In 1971, the Bureau of Business Research published a study entitled The University and the Local Economy: A Study of the Economic Interaction Between the University and the Dane County Economy. The report provided estimates of the dollar flows to the local community as a result of student, employee, visitor, and institutional expenditures. Although there had been no lack of recognition that UW-Madison was important to the Dane County economy, the estimates of a $200 million direct impact and a $450 million total impact (after multiplier effects) were surprising to many. Beyond providing a dollar figure to quantify the total impact, the study estimated flows to the specific sectors of the local economy.

Public interest in the study was great and for several years the Bureau of Business Research was asked to provide updated estimates. This was done for many years on a superficial basis, simply adjusting for enrollment, employment, and consumer price changes. As time passed, we became more and more uncomfortable doing this, and finally resisted outside pressures and stopped doing it.

Recognizing public interest in the subject, the UW Graduate School funded a study to be accomplished in 1983-84.

This new study overcomes many of the weaknesses of the earlier study, most notably by using an improved research design and by more seriously estimating visitors and visitor expenditures. An admitted weakness continued from the 1971 methodology is the use of sectoral sales multipliers from a study done in Door County in the late 1960's. The rationale for continuing to apply these non-specific (to Dane County) multipliers is that it would be very costly to develop current multipliers for Dane County, that the essential logic of the sectoral multipliers is strong and that the level of the sales multiplier used falls within a reasonable range.

In the end, it is important to recognize that the dollar estimates developed in the study are, in fact, estimates. They have been developed using reasonable procedures based on limits of time and money. The real numbers resulting from literally millions of economic transactions that take place in a year within the local economy cannot be actually determined. We believe that our estimates can be comfortably used without fear of being too far from the actuality.

Finally, this study makes a modest attempt to estimate the impact of UW-Madison on the state economy. The fact that the University of Wisconsin-Madison is so highly regarded nationally and even internationally draws dollars and visitors to the state each year. Thus, as an education industry, UW-Madison is an important exporter of Wisconsin services.

CHAPTER 1

OVERVIEW

UW-MADISON--PRIMARY FORCE IN THE DANE COUNTY COMMUNITY

Approaching Madison from almost any direction, visitors are struck by the city's twin skylines. The first is highlighted by the State Capitol surrounded by several high rise office buildings. The second impressive skyline, located to the west, is the University with its storied offices and dormitories. One need look no further to understand that the University is an impressive force in the community and that it represents an important economic element.

The data support this first impression. With an enrollment of about 44,000 students and a payroll of approximately 20,000 employees (including 9,000 students), there is no question but that UW-Madison is a major industry, particularly in the context of a city of 173,500 and a county of 332,600. Even as viewed from a total state level, UW-Madison, if conceptualized as a research/education business, would be the state's largest single employer.

The total size of the University community, considering students, employees, and their families, is estimated at 80,085.[1] As residents of the county and consumers of local goods and services, these individuals comprise by far the largest influence on the local economy. Without their purchases, the Dane County business community would be considerably smaller and less diverse.

Because the University attracts students and visitors from out-of-state, it can also be considered as a service exporter bringing "foreign" (out-of-state) dollars into the state economy. Furthermore, if the University did not exist in

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[1]See Appendix B for an explanation of how this figure was calculated.

the state, many students would spend their education dollars and most employees would earn their payroll dollars outside the state. Thus, the basic expenditures by in-state residents have an important import substitution effect. That is, Wisconsin provides educational services rather than forcing those who want these services to seek them in another state.

WHY LOOK FURTHER?

Since it's obvious that UW-Madison is a large and important enterprise and its community spends money, one might well assume that it is not worth looking beyond these simple observations. The logic of those who supported this study is that UW-Madison's size and importance are the very factors that call for an in-depth understanding of its economic impacts. Public support of the University calls for large expenditures of tax dollars in times of revenue scarcity. Allocations of tax dollars to higher education have been declining in proportion to public expenditures in other directions for many years in Wisconsin and the wisdom of this policy is subject to public debate. The economic impacts of UW-Madison as a result of its many and varied research and education activities are certainly one important element in this debate.

THE VALUE OF EDUCATION

The UW-Madison probably has its greatest economic impact by providing education for thousands of Wisconsin (primarily) young people to better prepare them to be productive in a complex and changing society. A recent UW-Madison study suggested that its graduates over the past decade had added an estimated $27 billion to their expected lifetime earnings by virtue of their higher educa-

tion.[2] Presumably the incomes that will be returns on investment for those graduates represent added productivity that contributes products and services to the economy, from which all benefit.

THE UNIVERSITY AND ECONOMIC DEVELOPMENT

In recent years, higher education has been viewed as a major force in economic development. This has been particularly true in the New England states where higher education, an important industry itself, produces the scientific, technical, and managerial manpower that fuels the region's industrial and commercial base.[3,4] Recognition of the economic development relevance of higher education in Wisconsin accelerated in the early 1980's. Many new programs have begun and are being drafted to stimulate this activity, although the state's relatively late entry into this arena puts it far behind much of the competition.

THE UNIVERSITY AS AN INDUSTRY

This study focuses neither on the value of education nor on the economic development aspects of higher education. It focuses instead on a third aspect--on the University of Wisconsin-Madison as an economic entity--a generator of income in the community and the state, an employer, an attraction for visitors

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[2]UW-Madison University Committee, "The Economic Benefits of the UW-Madison for the State," Working Group Report (Madison: November, 1983).

[3]Financing Higher Education: The Public Investment, John C. Hoy and Melvin H. Bernstein, eds. (Boston: Auburn House Publishing, 1982).

[4]Business and Academia: Partners in New England's Economic Renewal, John C. Hoy and Melvin H. Bernstein, eds. (Hanover, Massachusetts: University Press of New England, 1981).

who purchase goods and services. It views the UW-Madison as a business that has direct economic impacts on the community and state in which it is located.

"The primary role of all economic impact analysis is to measure the additional economic impact caused by the institution above the level of economic activity that would have occurred in its absence."[5] In this case, the institution is defined as UW-Madison and does not include the UW Central Administration or UW Extension. The local community is defined as Dane County. The "University community" as defined in the study includes the institution itself, its employees, students and their families, and visitors to the University.[6]

The conceptual structure of the study is indicated in Figure 1-1. Here it is clear that payments from the institution to employees and students and the converse are treated as intra-institutional transfers and not impacts on the local community. The impact focus thus is on the non-University community, indicated as businesses, government, and local households.

The study was structured to parallel, with some modest exceptions, the UW-Madison economic impact study that was conducted some years ago and published in 1971. Thus, comparisons to evaluate impact changes over the intervening years are in many instances possible.

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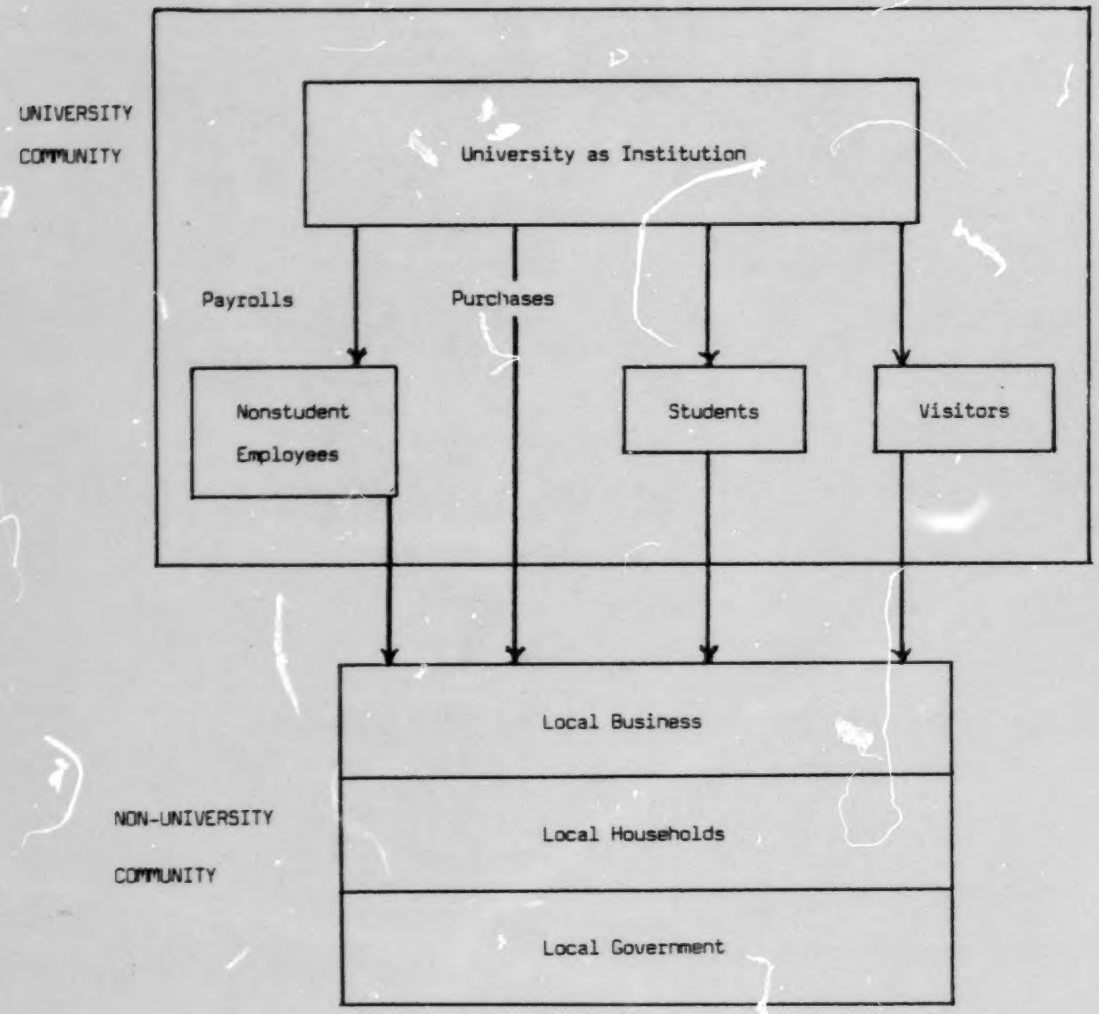
[5]Donald S. Elliott and Stanford L. Levin, "Considerations in Measuring the Economic Impact of Institutions of Higher Education," a paper presented at meetings of the Midwest Economic Association, Chicago, April 5-7, 1984 (Edwardsville, Illinois: Southern Illinois University, 1984), p. 6.

[6]Although these groups refer to UW-Madison only, some visitors to UW Extension programs were included in the visitor counts. The rationale for doing this was that many UW-Madison faculty provided instruction that drew the visitors to these programs.

Figure 1-1

A Conceptual Framework for the Study



SCOPE OF THE STUDY

Well over 100 institutions of higher education have conducted similar studies assessing their economic impact.[7] Some of these studies are quite sophisticated, employing dozens of complex econometric models, while others utilize less complex approaches which nonetheless produce comparable findings. Our perspective in choosing an approach was guided primarily by a desire to make this report as accessible as possible to all members of the local community. The fundamental goal of this study is to communicate in simple dollar terms what the UW-Madison means to Dane County. Technical jargon and incomprehensible mathematics would only serve to defeat our purpose.

Due to limits of time and money it was not possible to examine all the economic relationships between the local community and the UW-Madison. Economies are complex systems, and the inter-relationships among different entities are numerous. This study focuses on those relationships which were felt to be most salient and on those that could be measured.

There are nonetheless some non-quantifiable impacts of the University that do deserve mention because they are important. These are described in the concluding chapter of this report.

RESEARCH DESIGN

As might be expected, given the conceptualization of the "University community," this research project was designed as several coordinated research projects. Each major actor group in the University community (i.e., the institution, students, employees, and visitors) became the focal point of a research effort. The expenditure categories used were consistent across the groups and

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[7] See Appendix C for a selected bibliography.

these were selected on the basis of the economic multipliers used in the 1971 study as well as their correspondence to categories used in local and national data sources.[8]

In a study of this nature, it is inevitable that assumptions must be made whenever hard data is unavailable or too time-consuming or expensive to obtain. Our practice throughout this study was to make conservative assumptions -- i.e., use lower numbers whenever there was reasonable cause for doubt. So if we err in this report, it is on the side of caution.

Although the study was to be accomplished for the 1983-84 academic year, in some instances, at the time of data collection, data was only available for 1982-83. Whenever 1982-83 data are employed, it will be assumed that the figures for 1983-84 are similar. For the most part, if such assumptions are incorrect, the effect again would be to understate the results of this study.

The details of research design for each individual project are presented in the individual chapters and the research instruments used can be found in Appendix A. Instruments used were all refined and improved over their 1971 predecessors.

In brief, the basic approach used for measuring local institutional expenditures was to obtain a computer printout of all invoices paid during the 1982-83 academic year. A student assistant studied the entire list and classified the payees by industry according to the study format. In some instances, it was necessary to make assumptions regarding the correct code category of business.

The other major groups studied (students, employees, and visitors) were surveyed independently, but using many common questions. Basically, respondents from each group were simply asked to allocate from memory their expenditures over a designated time period. Care was taken to ensure that only local expenditures were included.

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[8]See Appendix D for a description of the categories.

CHAPTER 2

THE INSTITUTION

INSTITUTIONAL OPERATING EXPENDITURES

Payments from the University to persons, businesses, and local government represent one major flow of funds to the community. Institutional operating expenditures are comprised primarily of wages and salaries, payroll taxes, purchases of supplies and equipment, and student and faculty loans, scholarships, and fellowships. Data described in this chapter was obtained for the 1982-83 academic year.

PAYMENTS TO STUDENTS

The University annually pays students wages and salaries for work performed. The largest student recipient group is the assistant group (teaching, research, and project assistants). Other groups are student hourly workers, fellowship and scholarship holders, and borrowers from the student loan fund. Although loans are not normally viewed as income, it is appropriate to view them as such here because the loan proceeds become available for expenditure during the student's stay in the local economy. The loan is not repaid until after graduation, most often after the student leaves the local economy. All payments to students represent a dollar flow to members of the University community. Because these students live in the Madison area, they, of course, respend most of these funds locally.

Figures for payments to students, summarized in Table 2-1 below, were obtained from the University of Wisconsin-Madison accounting office.

TABLE 2-1

Total Dollar Flows to Students in Fiscal 1982-83

Wages and salaries to assistants	$27,789,790
Student hourly wages	12,954,769
Fellowships and scholarships	20,610,182
Student loans	8,985,784
TOTAL	$70,340,525

PAYMENTS TO FACULTY AND STAFF

The single largest expenditure category in the University of Wisconsin-Madison budget was wages and salaries to faculty and staff. For the University's fiscal year 1982-83, the payments for faculty and staff wages and salaries amounted to $272,121,256. Chapter 3 details how these earnings were spent. Neither UW Extension nor UW System faculty, both located in Madison, are included in either the salary or fringe benefit figures.

Since this study is concerned with all types of dollar expenditures, it is appropriate to note that the state spent millions of dollars on fringe benefits for University employees. These supplementary benefits can be considered as non-taxable income to employees, providing them with the opportunity to spend their wages and salaries on things other than health and life insurance or retirement programs. Another view of these fringes would recognize them as institutional expenditures to local business ($9.9 million went to local insurance firms). The amount and distribution of benefits are summarized in Table 2-2 below.

TABLE 2-2

Fringe Benefits Paid to University Employees
in Fiscal 1982-83

	Total	Local Placement Dane County	Placement in State
State Group Life Insurance	$ 931,050	$ 658,252[1]	$ 658,252[1]
State Group Health Insurance	16,730,590	9,235,285	16,730,590
Teachers Retirement	14,561,354	--	14,561,354
Classified Retirement	11,890,734	--	11,890,734
TOTAL	$41,113,728	$9,893,537	$41,113,700

[1]Paid through a local broker, but placed with an out-of-state firm.

PAYMENTS FOR SUPPLIES, SERVICES, AND EQUIPMENT

The balance of University operating expenditures goes for the purchase of supplies, services, and equipment. In the case of payments to students and staff, it was assumed that all were residents of Dane County. Exceptions to this assumption are infrequent and thus have negligible effects on the study's conclusions. However, in the case of supplies, services, and equipment, a substantial portion of the University's expenditures to vendors are made outside Dane County.[1] Non-local expenditures need to be segregated from total University expenditures as they do not have a direct impact on the local economy.

Total University expenditures for Dane County were obtained by examining a computer-generated record of all vouchers paid for in 1982-83. Only those that had a Dane County zip code for the payee were included. The transactions were

[1]Hard data concerning the total amount of expenditures to vendors both inside and outside the county was not available because University records include interdepartmental transfers in budget figures. Using a University accounting official's estimate that such transfers comprise 20% of the total, about $137.5 million was spent by the University on supplies, services, and equipment. Of this amount, the same official estimates that roughly half was spent in Wisconsin.

classified according to industry and the amount of each transaction was recorded. The total amounts by industry are summarized below.

Agriculture, Mining, Forestry $128,000

These expenditures included items such as stone and gravel, agricultural produce, and nursery products.

Construction $483,000

Major University construction expenditures were not included in this figure. These will be discussed in this chapter. Included here are expenditures for repair and maintenance work done by firms in the local construction industry.

Manufacturing $698,000

The manufacturing purchases included payments for items manufactured in Dane County, including lumber and wood products; printing and publishing and allied industries; petroleum refining and related industries; machinery; and professional, scientific, and controlling instruments, among others.

Transportation, Communications, Utilities $468,000

This category included such items as telephone, gas and electricity, and bus transportation.

Wholesalers $14,749,000

All agents, brokers, and wholesalers selling items such as office supplies and equipment, food and beverages, and other supplies and equipment were included in this category.

Building Material Suppliers, Farm Equipment Dealers, and Hardware Stores $764,000

Purchases in this category included items such as lumber, paint, tools, and tractors.

Personal and Business Services $3,659,000

This broad-based category included items ranging from medical, legal, and consultant fees to laundry and dry cleaning. It also included 10 percent of the air fares paid by the University for travel under the assumption that local travel agencies received this as payment from the airlines for scheduling the travel.

Finance, Insurance, and Real Estate $11,787,000

This category included payments made to banks and financial institutions, insurance agents and brokers, and real estate operators and lessors. It also included the fringe benefit payments described in Table 2-2.[2] Beyond these payments UW-Madison, including its auxiliary operations, maintains short and longer term balances in Wisconsin financial institutions. At present, the longer term balances are about $120 million and are maintained in Wisconsin, but not in Dane County. The short term balances are maintained in Madison and currently average about $3 million. These balances, of course, have some economic benefit by their expansion of the local and state credit base. These benefits are described in more detail in Chapter 6.

[2]In 1982-83, HMO's were not yet prevalent, so virtually all of the health insurance money spent locally went to insurance firms. Some of this money comes back to the University as payments for health care at University Hospital and Clinics. We made no attempt to determine how much this involved, since much of it ultimately goes back into the local economy as salaries and purchases of equipment, services, and supplies.

General Merchandise Stores $21,000

This small category included the purchase of items from department, discount, and variety stores as well as mail-order houses.

Automobile Sales and Service $272,000

This category included direct purchases by the University from Dane County service stations, garages, and automobile dealers.

Apparel Stores $7,000

This category included purchases for uniforms, clothing and tailoring, and shoes.

Furniture and Appliance Stores $490,000

This category refers to those purchases made to furnish offices and other facilities.

Eating and Drinking Places $21,000

These purchases refer to the portion of travel expense funds paid to University-sponsored visitors that are traceable to local eating and drinking establishments. This amount is very likely to be understated by a large amount as most of the payments for these expenditures went to individuals based on their expense reports. There was no way to trace these expenditures based on the computer records of voucher payments. The actual amount here was more likely to have been in the neighborhood of $1,000,000-$1,500,000. However, most of this will have been picked up through the visitor expenditures described in Chapter 5. When the UW pays a prospective faculty member visiting Madison his or her expenses, a portion of the expense payment will be for local hotels and restaurants.

Miscellaneous Retail $700,000

These purchases included items bought from book and stationery stores, drug stores, gift stores, sporting goods stores, and others.

Lodging Places $27,000

This refers to expenses paid to University-sponsored visitors using lodging facilities in Dane County. As was the case for eating and drinking places, this amount is vastly understated as most such expenditures were reimbursed through individuals based on travel expense reports. Again, however, these expenditures will, for the most part, be measured as visitor expenditures in Chapter 5.

Amusement Places --

No expenditures were made to amusement places.

Government $1,299,000

This category included payments for taxes, services, and rentals of city and county property, and payments for sanitary water and sewer service. This total included $399,029 for property taxes.

Local Households $161,000

These expenditures to local households refer primarily to services provided by Dane County residents. They involve honoraria. Some payments may have been repayment of expenses actually incurred outside the county. Thus, they wouldn't reflect local impact. However, in the perspective of the total study, this is a relatively small category so the effect on overall results is negligible.

The local impact of the University's institutional operating expenditures on Dane County's economy is presented in summary form in Table 2-3. Based on the figures described above, the total direct impact was $35,734,000. This amount

represents about 19% of all University expenditures for supplies, services, and equipment excluding health insurance expenditures, or 24% including them.

TABLE 2-3

Local Purchases of Supplies, Services, and Equipment
by the University of Wisconsin-Madison
in 1982-83 (by Industry)

Industry	Estimated Total Local Purchases
Agriculture, Mining, Forestry	$ 128,000
Construction	483,000
Manufacturing	698,000
Transportation, Communications, Utilities	468,000
Wholesalers	14,749,000
Building Material Suppliers, Farm Equipment Dealers, Hardware Stores	764,000
Personal and Business Services	3,659,000
Finance, Insurance, and Real Estate	11,787,000
General Merchandise Stores	21,000
Automobile Sales and Service	272,000
Apparel Stores	7,000
Furniture and Appliance Stores	490,000
Eating and Drinking Places	21,000
Miscellaneous Retail	700,000
Lodging Places	27,000
Amusement Places	—
TOTAL TO LOCAL BUSINESSES	$ 34,274,000
Government	1,299,000
Households	161,000
TOTAL	$ 35,734,000

MAJOR CONSTRUCTION EXPENDITURES

Construction expenditures are based on long-term planning and contracting, and therefore one should be cautious about attaching great importance to the results of one year and its effects on the local economy. The year-to-year impact on the local economy is likely to be inconsistent, but nonetheless construction expenditures do represent dollar flows into the economy, and therefore should be analyzed.

During 1982-83, the UW-Madison paid out $15,302,981 from the construction fund. Of this amount, approximately 48%, or $7,345,000, was paid out to Dane County construction firms, engineers and architects, and related businesses.[3] The balance of the payments, $7,957,000, was paid to non-local firms.

It is well recognized that a substantial portion of funds paid to non-local contractors flow back into the local economy as local labor is hired, supplies are purchased, and other expenditures are made. Based on the results of the 1971 study of the local economy, it was determined that 90.6 percent of purchases from non-local contractors flow directly back into the local community. The local industries receiving these payments are illustrated in Table 2-4:

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[3]No breakdown was obtained. In the 1971 study, 94% went to construction firms, 5% to local engineers and architects, and 1% to furniture and appliance stores. We assume these percentages also apply to 1982-83 construction expenditures paid to local firms.

TABLE 2-4

Percentage of Construction Purchases Made Locally
By Non-Local Contractors

Industry	Percent of Total Contract
Construction	35.53
Building material suppliers	18.20
Transportation, utilities	.70
Personal and business services	.17
Financial institutions	.08
Automobile sales and services	.08
Eating and drinking places	.03
Local government	.03
Local households (labor)	35.70
	90.57

Applying these percentages to the current study, it was estimated that local businesses and households received the amounts shown in Table 2-5 below from construction firms located outside the county.

TABLE 2-5

Local Payments by Non-Local Contractors

Construction	$2,827,000
Building materials suppliers	1,448,000
Transportation, utilities	56,000
Personal and business services	14,000
Financial institutions	6,000
Automobile sales and service	6,000
Eating and drinking places	2,000
Local government	6,000
Local households (labor)	2,841,000
TOTAL	$7,206,000

Thus, the Dane County economy received a total estimated dollar flow of $14,551,000 ($7,345,000 directly through local firms and $7,206,000 indirectly as non-local firms bought goods and services locally) as a result of 1982-83 fiscal year construction expenditures by the University.

CHAPTER 3

EMPLOYEES

INTRODUCTION

Expenditures of University employees represent a major influence on the local economy, as evidenced by the size of the 1983-84 payroll, which amounted to over $283 million, excluding payments to student employees. Because University employees are members of the local economy as well as employees of the University, this payroll can initially be viewed as a flow of dollars to the local economy, ending up in the pockets and pocketbooks of University employees. However, it is also possible to view employees as being a part of the University. In this framework, the dollar flow to the local economy stems from the expenditures made by University employees to Dane County businesses and households using the wages and salaries they receive from the University. We have chosen to take the latter perspective for this study, and view employees as contributors to the local economy rather than as members of it. This stance is justified if one considers the hypothetical situation of a Dane County without a University of Wisconsin-Madison. In this "science fiction" scenario, most members of the local economy who would have worked at the University would be working at other universities, especially professors.[1] Others who would in all likelihood be living in Dane County regardless of the University's presence would be unable to find work since many of the non-University jobs in Dane

[1]Over 75% of the full, associate, and assistant professors responding to a survey described later in this chapter indicated that they would not be living in Dane County if they were not employed by the University.

County which are supported by the University's presence would not exist.[2] These individuals would probably also be living elsewhere. Therefore, it is inappropriate to view University employees as members of the local economy, since it is the University which ultimately accounts for their residence in the county.

EMPLOYEE INCOME AVAILABLE FOR LOCAL EXPENDITURES

Because student expenditures are considered elsewhere in this report, employee gross earnings in 1983-84 were obtained from the University's Payroll and Staff Benefits office by subtracting the wages paid to assistants and student hourly workers from the gross payroll. The result was $283,204,000.

From this amount, taxes were deducted to determine what income was available for expenditure in the local economy. These calculations are shown below in Table 3-1.

TABLE 3-1
Nonstudent Payroll Adjusted for Taxes

UW Nonstudent Payroll.....			$283,204,000
Less:	Federal income taxes	$49,963,000[1]	
	State income taxes	18,870,000[1]	
	Social Security taxes	16,495,000	
			- 85,328,000
Nonstudent Disposable Income from UW.....			$197,876,000

[1]We assume that tax deductions from payroll equal taxes paid.

Additional deductions were made from the payroll to purchase services desired by employees. These include life and health insurance, fees to the

[2]Findings discussed in Chapter 6 suggest over 18,000 local non-University jobs are attributable to expenditures by the University community.

University for parking, and government bonds. These deductions are itemized in Table 3-2.

TABLE 3-2
Employee Income Available for Local Expenditure

Nonstudent Disposable Income from UW.....			$197,876,000
Less:	State Group Life Insurance	$1,203,000	
	State Group Health Insurance	1,406,000	
	UW Fees (parking)	483,000	
	U.S. Bonds	182,000	
			- 3,274,000
Nonstudent Income from UW Available for Local Expenditures.....			$194,602,000

Thus, it would appear that the University nonstudent faculty and staff had approximately $194,602,000 available to spend in the local economy during the 1983-84 fiscal year.

HOW DATA WERE OBTAINED

To determine household expenditures of employees, a random sample of 292 faculty and staff members were surveyed by mail in November, 1983.[3] (The questionnaire used is presented in Appendix A). To assure an adequate response rate, a follow-up post card was mailed one week after the initial mailing.

In an attempt to improve the accuracy of the estimates obtained, two methodological issues were considered. First, it would obviously be imprecise to ask employees for an "average" monthly expenditure. Yet, if a specific month was chosen to offset this problem, a new difficulty would be created because the month chosen would not necessarily be representative of employees' actual average monthly expen-

[3]It is inappropriate to use individual employee expenditures since a majority of employees are members of households, and their individual expenditures cannot be isolated.

ditures. In order to try to overcome this difficulty, employees were randomly assigned to detail their expenditures in one of four months: August, September, October, or November of 1983. The figures which are used in this analysis are based on the overall averages obtained across all four months.

The second methodological issue concerns differing incomes among different types of University employees. Professors' incomes are generally higher than those of academic or civil service staff. Over or under sampling of any of these employee categories would result in biased estimates. To compensate for this potential effect, the sample was stratified by type of University employee so that the percentage of each type in the sample corresponded to the percentage in the population.

Nonetheless, this does not assure that the questionnaires that are returned will be similarly allocated across the various types of employees. In fact, of the 128 usable responses (a response rate of 43%) there was a slight non-response bias, with civil service staff underrepresented and all three classes of professors over-represented. To compensate, responses were appropriately weighted in order to obtain a more accurate average monthly expenditure for each category.

EXTRAPOLATION OF MONTHLY EXPENDITURE ESTIMATES

The basis for extending the average monthly expenditures obtained from the sample to monthly expenditures for all employees is the number of employee

households, which was estimated at 11,911 for 1983-84.[4] The annual total was then obtained by simply using a factor of 12, since for all practical purposes non-student University employees reside in Dane County throughout the year.[5]

EMPLOYEE EXPENDITURES

Table 3-3 describes the average monthly expenditures of employee households. In Table 3-4 these are expanded to all employees for the 1983-84 academic year. One category of employee expenditure omitted from analysis are expenditures to the University, since the University is not considered as a part of the local economy in this study, and data is unavailable.

DISCUSSION

The average employee household spent $19,873 locally in 1983-84, or $1,656 per month. These figures do not include expenditures to the University, and the average is based on all employee households, including those that live outside

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[4]The number of households is somewhat less than the number of employees since some employees are married to each other, others share households, and still others live with their parents or children. To estimate the number of employee households, the names and addresses of 857 randomly selected employees were examined. Eighty-five of these employees, or about 10%, had the same last name and address. However, this method includes neither employees who are married but have different names nor unmarried employees who share both living quarters and household expenditures. We conservatively estimate that employees in these two categories represent 5% of all employees, although the actual figure, which for all practical purposes is unobtainable, is probably lower. Thus, the total percentage of employees that have another member of their household also working for the University is estimated at 15%.

In 1983-84 there were 12,876 non-student employees. If 15%, or 1,931, have another member of their household working for the University, then half this figure, 966, is the number of dual-employee households. Subtracting 1,931 from 12,876 yields, 10,945, the number of single-employee households. Adding 966 and 10,945 results in a total of 11,911 employee households.

[5]The exceptions to this assumption, if considered, would have a negligible effect on our totals.

the county. Limiting the average to local households would result in a higher estimate. In total, University employee households spent an estimated $185.9 million in local businesses. About $21.7 million went to local government, and $29.1 million was given to local households and charities.

The total expenditure figure of $236.7 million is about $42 million greater than the disposable employee earnings figure calculated in Table 3-2. This discrepancy is a result of factors which were not measured in this study. These factors could tend to understate or overstate either disposable income available to University community households for spending in Dane County or employee expenditures directly attributable to the UW payroll:

- Some degree of error in our estimates of expenditures is inevitable due to response bias, sampling error, errors in recall by respondents and errors in industry classification by respondents.
- Some employee households have two incomes, so part of the expenditures employees reported were undoubtedly a result of non-University earnings. In an abstract sense, a portion of these earnings are University-related, since many jobs exist in the local community because of University community expenditures, and some of these jobs are held by members of employee households.
- Some employees have other sources of income besides their University salary. Much of this income, particularly that accruing to faculty, is in a real sense, University-related (e.g., textbook royalties, consulting). In this sense, it is certainly "legitimate" income to be credited to the University community even though it is not included in payroll figures.
- Some percentage of employee earnings is invested or put in savings accounts rather than spent on goods and services.
- Some purchases are made on credit.
- Some employees live outside of Dane County and do most of their spending where they reside.

The effect of these factors is that the University payroll understates the income available to University households for spending locally, and the expenditure figures presented in Tables 3-3 and 3-4 probably over-state to some extent the University-related contribution of employees to the local economy.

Financial institutions would appear to be the recipients of the biggest share of employee expenditures. Some $39.4 million was paid to banks, insurance companies, and real estate agencies. An additional $16,985,000 was maintained in checking accounts, and $104,579,000 was kept in Dane County savings accounts, IRA's, and certificates of deposit.

About 8.6% of the sample purchased a home or property during 1983 at an average cost of $51,800. Extrapolating these figures to all employees suggests over 1,000 such purchases were made at a total cost of $53 million. Some percentage of these homes were undoubtedly new, providing dollars for local construction firms. And if it is assumed that homes were purchased with an 80% mortgage, then local financial institutions had a potential market of about $42 million for their mortgage funds. The other $11 million would have been invested by employees in equity as down payments.

The $13.8 million paid to local government in property taxes is probably understated, since 28% of employees rent, and about a quarter of rental dollars ends up being paid as property tax by the landlord. The actual figure is thus closer to $17.2 million.

In a similar vein, the utility figures are probably understated since some renters pay for heat and electricity as a part of their rent.

In conclusion, it is apparent that the contribution of employees to the local economy is sizable. In the next chapter a similar methodology is applied to examine the economic impact of students.

TABLE 3-3
Average Monthly Employee Household Expenditures[1]

Telephone	$ 34
Gas/electric[2]	71
Department stores	78
Apparel stores	65
Gasoline/auto parts and service	100
Furniture/appliances	63
Restaurants/bars	64
Groceries	206
Retail stores	60
Lodging[3]	4
Amusements	15
Households	40
Service charges/interest	20
Transportation	57
Government	9
Churches and charities	44
Personal/business services	49
Construction/repair	72
Rent[4]	
Paid to businesses	319
Paid to individuals	272
Insurance[5]	
Paid to Dane County companies	79
Paid to Dane County salespeople representing out-of-county insurance companies	129
Mortgage interest[6]	233
Mortgage principal[6]	83
Property tax (annual)[6]	1,674
Average checking balance	1,426
Average savings balance	8,780

[1]Averages are based on all employees, including those that live outside of Dane County. For the out-of-county employees, only expenditures in Dane County are counted. Averages are therefore lower than they would be if only local employees were included.

[2]This average excludes those utility costs which are included in rent.

[3]Refers to hotel/motel lodging in Dane County only.

[4]Based on those respondents who pay rent. Percentage breakdown of sample as follows:

72% own homes
16% pay rent to households
12% pay rent to businesses

No employee in the sample lived in University-owned housing. Nonetheless, a small number of faculty members do live in University Houses. Since this rent money is paid to the University, for purposes of this study it has no impact on the local economy. We choose not to subtract the amount from the other rents as an adjustment since the effect would be negligible.

[5]Based on those respondents who pay insurance. Percentage breakdown of sample as follows:

33% pay insurance to Dane County firms
22% pay insurance to Dane County salespeople
18% pay insurance to both
27% pay no insurance or purchase it through the University

[6]Based on the 72% of employee households that own homes.

TABLE 3-4
Total Employee Household Expenditures

Expenditures to Local Businesses		
Construction (repairs only)		$10,303,000
Utilities		
Telephone	$ 4,887,000	
Gas/electric[1]	10,148,000	
		15,035,000
Personal and Business Services		7,032,000
Finance, Insurance, Real Estate		
Mortgage interest	22,908,000	
Rent to businesses	5,969,000	
Financial fees and interest	2,923,000	
Insurance	6,348,000	
Insurance commission	1,262,000	
		39,410,000
Department stores		11,085,000
Food stores		29,396,000
Vehicle purchases[2]		18,913,000
Auto service (parts, gasoline)		14,299,000
Apparel stores		9,348,000
Furniture and appliance stores		9,059,000
Restaurants and bars		9,180,000
Other retail stores		8,521,000
Lodging places		586,000
Amusements		2,098,000
Transportation[3]		1,630,000
TOTAL TO LOCAL BUSINESSES		$185,895,000
Local government		
Property taxes[4]	13,833,000	
Miscellaneous (bus, traffic fines, etc.)	7,985,000	
		21,708,000
Local charitable organizations		6,332,000
Local households		
Auto[2]	9,459,000	
Rent	7,609,000	
Miscellaneous	5,705,000	
		22,773,000
TOTAL LOCAL EXPENDITURES		$236,708,000

[1]Excludes utility costs included in rent.

[2]Three vehicles were purchased by employees in the sample at an average cost of $8,250. Extrapolating these findings suggests employees spend over $28 million on new and used autos, trucks, and motorcycles annually. It is admittedly a questionable research practice to draw such a conclusion from a mere three purchases. However, this conclusion becomes more acceptable if examined logically. Three purchases per month out of a sample of 128 suggests about a quarter of employee households purchase at least one vehicle annually. This is not unreasonable, especially if one considers that some households own more than one vehicle and that most households will replace their vehicles within a 4-5 year period. Nor is an average vehicle purchase of $8,250 unreasonable.

Not all vehicles are purchased new, however. We make the assumption that one out of three is purchased used from private parties. These purchases affect the local economy in a different fashion than if vehicles were purchased new.

A final caveat should be mentioned here regarding seasonal vehicle purchases. Our study examined vehicle purchases in the months of August through November, when new models become available. To the extent that new (or used) vehicles are purchased more frequently at this time of year, our rough estimate will be even more biased.

[3]We assume 20% of the total amount spent on transportation is for taxis, local bus companies, and travel agency commissions. The rest goes to local government for bus fares.

[4]Excludes property taxes included in rents.

CHAPTER 4

STUDENTS

INTRODUCTION

Students are the main reason that the University exists. Student expenditures also provide for the livelihood of many individuals and business concerns in Dane County. In this chapter we describe the contribution made by students to the local economy.

HOW DATA WERE OBTAINED

To ascertain student expenditures, 455 randomly selected students received questionnaires in November 1983 asking them to detail their monthly spending (see Appendix A).[1] To improve the response rate, we mailed follow-up postcards one week later to all students in the sample. In total, 266 questionnaires were returned for a response rate of 58%.

EXTRAPOLATION OF MONTHLY EXPENDITURE ESTIMATES

The basis for extending monthly expenditures from the sample to annual expenditures for the student body is student months spent in Madison. In the fall of 1983, there were 43,075 students enrolled at the University, followed by 41,275 in the spring of 1984 and 15,529 during 1984 summer session. The first two figures were multiplied by four months and the summer session figure by 2

[1] To improve the accuracy of our estimates of students' average expenditures, each student was randomly assigned to estimate expenditures during either September, October, or November of 1983. The logic of this procedure is detailed in Chapter 3.

months to obtain student months spent at the University in 1983-84.[2] Thus, we estimate 368,450 student months as our expansion factor.

Some of the questions asked of students related to expenditures that only take place once a year, and others to balances in local financial institutions. To expand these to the student population, we use the spring enrollment figure of 41,275.[3]

Our totals incorporate the expenditures of all students enrolled, including those with Dane County permanent addresses. One could argue that such students would spend money in Dane County regardless of the University's presence and should be omitted. However, there are probably few such students for the following reasons:

- Some students with Dane County permanent addresses are graduate students who obtain local addresses for the sake of convenience. If they were not attending the University, they would be living elsewhere.
- Some students with Dane County permanent addresses have lived here most or all of their lives. However, it is likely that <u>without</u> the University's presence, they would be working or attending school elsewhere.
- Some students with Dane County permanent addresses might still live here if not attending school, but only because of the cultural, political, and intellectual atmosphere created by the University.

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[2]In the 1971 study, a multiplier of 4.5 months was used. Because of vacation time, we use a more conservative figure of 4 months for this study. Also, some summer session students attend for less than eight weeks, while others attend longer. We assume the average is two months.

[3]Clearly, more than 41,275 different students were enrolled in 1983-84. However, it would be inappropriate to use the total number of different students enrolled since not all of them are here for the full school year.

STUDENT EXPENDITURES

Table 4-1 describes the average student's monthly expenditures. In Table 4-2, these estimates are expanded to the entire student body for the school year. Neither table includes student expenditures to the University. These are detailed in Table 4-3, but are not included as a part of the economic impact of students since the University is not considered as a part of the local economy in this study.

DISCUSSION

The average student spent $547 a month locally not including money given to the University. The average is based on all students, including those that live outside the county. Limiting the average to local students would result in a higher estimate. The nature of the total impact of student expenditures on various types of local businesses is not surprising. The largest recipients of student dollars were landlords, with about $20.7 million in rents going to firms and about $16.6 million being paid to individual landlords. Local food stores received about $24.4 million from students, and another $17.8 million went to local restaurants and bars. Financial institutions held about $18 million in student checking and share draft accounts, and about $40 million in student savings accounts. Other figures are detailed in Table 4-2.

Expenditures to utilities are probably understated at $17.6 million. Many rents include heat and electricity, so the above rent figures no doubt include a percentage which in actuality goes to either Madison Gas and Electric or Wisconsin Power and Light.

Local government received income from students in the form of property taxes, bus fares, and traffic fines, to name the major categories. The property tax figure is understated at about $3.6 million, since some percentage of rents ends up being paid to local government as property tax. If we assume the per-

centage is 25%, then local government ultimately receives over $13.5 million from students in property taxes.

Several cautions should be mentioned. As in the employee chapter, classification problems are a possibility since students classified expenditures themselves. Also, this study did not investigate the spending of student organizations such as fraternities and sororities. To the extent that such groups make wholesale purchases, our spending totals are understated since these purchases were not included.

It is worth mentioning that according to the UW-Madison Enrollment Report, about 23% of students are from outside of Wisconsin. If we assume that out-of-state students spend the same average amount locally as Wisconsin students, then the local and state economies receive $46.4 million because the UW-Madison "exports" its educational services and brings "foreign" dollars from elsewhere.[4]

A final note is in order regarding the accuracy of our estimated total of $201.6 million. If the corresponding 1971 study total is adjusted for inflation by the Consumer Price Index, it amounts to about $222 million. Given the expected degree of error in both studies and differing extrapolation procedures, the figures are in close enough accord to give us confidence that our estimate is reasonably close to the true amount.

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[4]Figure obtained by taking 23% of the total in Table 4-2.

TABLE 4-1
Average Monthly Student Expenditures[1]

Telephone	$ 30
Gas/electric[2]	17
Department stores	37
Apparel stores	33
Gasoline/auto parts and service	28
Furniture/appliances	5
Restaurants/bars	48
Groceries	66
Retail stores	23
Lodging[3]	1
Amusements	8
Households	8
Service charges/interest	4
Transportation	18
Government	4
Churches and charities	9
Personal/business services	2
Construction/repair	4
Rent[4]	
Paid to businesses	208
Paid to individuals	194
Paid to non-profit organizations	130
Insurance[5]	
Paid to Dane County companies	71
Paid to Dane County salespeople representing out-of-county insurance companies	84
Mortgage interest[6]	275
Mortgage principal[6]	96
Property tax (annual)[6]	1,445
Average checking balance	436
Average savings balance	970

[1]Averages are based on all students, including those that live outside of Dane County. For these out-of-county students, only their Dane County expenditures are counted. Averages are therefore lower than they would be if only students with a Dane County residence were included.

[2]This average excludes those utility costs which are included in rent.

[3]Refers to hotel/motel lodging in Dane County only.

[4]Based only on those students who pay rent. Percentage breakdown of sample as follows:

27% pay rent to businesses
26% live in UW housing
23% pay rent to individuals
10% commute from outside the county or live at home in Dane County and pay no rent
8% pay rent to non-profit organizations
6% own homes

[5]Based only on those who purchase insurance. Percentage breakdown of sample as follows:

11% pay insurance to Dane County firms
11% pay insurance to Dane County salespeople
5% pay insurance to both
73% pay no insurance

[6]Based on the 16 students in the sample who own homes.

TABLE 4-2

Total Student Expenditures

Expenditures to Local Businesses		
Construction (repairs only)		$ 1,336,000
Utilities		
Telephone	$11,210,000	
Gas/electric[1]	6,416,000	
		17,626,000
Personal and Business Services		8,139,000
Finance, Insurance, Real Estate		
Mortgage interest	8,172,000	
Rent to businesses	20,727,000	
Rent to non-profit organizations	3,960,000	
Financial fees and interest	1,506,000	
Insurance	2,995,000	
Insurance commission	477,000	
		37,837,000
Department stores		13,697,000
Food stores		24,393,000
Vehicle purchases[2]		5,924,000
Auto service (parts, gasoline)		10,353,000
Apparel stores		12,013,000
Furniture and appliance stores		1,688,000
Restaurants and bars		17,824,000
Other retail stores		8,364,000
Lodging places		316,000
Amusements		2,980,000
Transportation[3]		1,337,000
TOTAL TO LOCAL BUSINESSES		$163,827,000
Local government		
Property taxes[4]	3,588,000	
Miscellaneous (bus, traffic fines, etc.)	5,347,000	
		8,935,000
Local charitable organizations		3,213,000
Local households		
Auto[2]	5,924,000	
Rent	16,637,000	
Miscellaneous	3,088,000	
		25,649,000
TOTAL LOCAL EXPENDITURES		$201,624,000

[1]Excludes utility costs included in rent.

[2]No autos were purchased by students in our sample, although a number of students were making monthly payments on auto loans. We had no way of determining where the purchases behind these loans occurred. Nonetheless, with over 40,000 students, a number of vehicles are purchased locally, albeit infrequently. To obtain a rough estimate we use the 1971 findings and adjust for inflation. Fifty percent of this amount is attributed to auto dealers, and 50% to private parties (i.e., households) because of the likelihood that many students purchase their vehicles used from private parties. This affects the local economy in a different fashion than if vehicles were purchased new.

[3]We assume 20% of the total amount spent on transportation is for taxis, local bus companies, and travel agency commissions. The rest goes to local government for bus fares.

[4]Excludes property taxes included in rents.

TABLE 4-3

Student Expenditures to the UW-Madison[1]
(1983-1984)

Academic fees		
Summer session	$ 4,399,673	
First semester	31,859,467	
Second semester	29,684,072	
Other	696,006	
		$66,639,218
Segregated fees		
Union	1,768,227	
Student health	2,550,840	
Intramurals	628,390	
Seg. fees allocable	107,948	
Seg. univ. fees activities committee	120,775	
		5,196,180
Residence halls (includes food service, etc.)		
Single student dorms	16,436,253	
Student family apartments	2,135,171	
Co-op student housing	50,566	
		18,621,990
Intercollegiate athletics[2]		709,000
TOTAL[3]		$91,166,388

[1]These expenditures are not included as a part of the economic impact of students since the University is not considered a part of the local economy in this study.

[2]According to information provided by the Athletic Department, about $709,000 is spent by students on football, basketball, and hockey tickets.

[3]Additional revenue comes to the University from students via other routes. However, University records do not distinguish among revenues from students and revenue from faculty, staff, or the general public for a number of categories. These other revenue sources include Union operations, intramural operations, copy centers, international studies, dairy plant, adult education, short course housing, library fines, publications, parking and transportation.

CHAPTER 5

VISITORS

INTRODUCTION

One would expect a large university such as the UW-Madison to be a major attraction for visitors from outside the local community. As a top-ranked educational institution, it receives visits by scholars from all over the world. As a cultural center, it draws artists, musicians, and performers as well as audiences. The internationally recognized hospital and medical school serve as a magnet for those seeking advanced medical care. The Badger athletic program appeals to fans from all over the Midwest, who converge on Madison to watch their favorite teams play. Business people, union members, engineers and health professionals attend UW Extension seminars to expand their knowledge of the latest concepts and practices in their fields. Both parents and friends visit students on campus. Prospective students drive or fly in to evaluate what the next four years of their lives will be like. Alumni reminisce about the four years that have already passed.

These visitors enrich the university and the community immeasurably by their presence. They also spend money. Each visit entails purchases of food, gifts, lodging, and other items.

In total, we estimate that almost 2 million out-of-county visitors spent 4.6 million visitor-days in Dane County during the 1983-1984 academic year because of the UW-Madison. Their total expenditures amounted to about $140 million, with $38 million of this amount coming from outside Wisconsin. We describe in the rest of this chapter how these totals were derived.

ESTIMATING VISITS AND EXPENDITURES

Counting visitors and calculating their expenditures proved to be the most difficult part of the entire study. To facilitate the process, different types

of visitors were divided into five distinct working categories: visitors to athletic events and programs, parents, friends of students, friends of University employees, and visitors on University-related business. We then obtained information from a number of different sources:

- a survey of spectators at football games
- Athletic Department ticket records
- a survey of parents of UW-Madison students
- four different surveys of UW-Madison students
- a survey of UW-Madison employees
- a survey of all University departments, centers, institutes, and administrative offices
- two studies of patients and patient visitors conducted by University Hospital and Clinics
- three different surveys of conference visitors
- data from the Greater Madison Convention and Visitors Bureau and the Greater Madison Chamber of Commerce

Despite this extensive research effort, some data of interest remained elusive. In the following discussion, we indicate where data was obtained from surveys and where it was occasionally "guesstimated" using educated assumptions.

VISITORS TO ATHLETIC EVENTS AND PROGRAMS

Anyone in a Madison restaurant, bar, or parking lot on a football Saturday witnesses a graphic illustration of university visitors contributing to the local economy. To measure the economic impact of these out-of-county football fans, we distributed a total of 1,600 surveys to randomly selected fans at Camp Randall: 400 at each of four home games in the fall of 1983. Six hundred and nine surveys were returned by mail for a response rate of 38% (see Appendix A).

From the surveys, we calculated average fan expenditures for each of a dozen or so business categories. The average football fan spent $31 a game in total excluding tickets. The category averages were multiplied by out-of-county fan attendance for the football season to obtain an estimate of football spectator expenditures for all games by category. Details are presented in Tables 5-1 and 5-2.

TABLE 5-1

Estimation of Out-of-County Football Fan Attendance[1]

1)	Season sales to general public[2]	183,141	
	Less 53% from Dane County[3]	- 97,065	
	Equals out-of-county season ticket sales		86,076
2)	Single game sales	162,727	
	Less student tickets[4]	- 5,717	
	Less faculty/staff tickets[4]	- 1,157	
	Equals single game sales to general public	155,853	
	Less 50% from Dane County[5]	- 77,927	
	Equals out-of-county single game ticket sales		77,927
3)	Free admissions	23,619	
	Less 75% from Dane County[5]	- 17,714	
	Equals out-of-county free admissions		5,905
4)	Visiting team block tickets		18,875
	Sub-total		188,783
	Less 14% parent visits[6]		- 26,430
	TOTAL		162,353

[1]All figures derived from Athletic Department ticket sales records except where noted.

[2]Excludes students and University employees.

[3]Estimated from a random sample of 730 addresses of non-student and non-employee season ticket holders.

[4]The 5,717 single game student tickets purchased represent 6.9% of total student season ticket sales. We assume this percentage also applies to faculty and staff single ticket purchases.

[5]Estimated by Athletic Department.

[6]Fourteen percent of the survey respondents had children attending the UW-Madison. To avoid double-counts with parent visits, we subtract this percentage from the subtotal.

TABLE 5-2

Total Expenditures by Out-of-County Football Fans[1,2]

	Total Fan Expenditure
Transportation	$ 19,000
Personal Services	88,000
Department Stores	662,000
Clothing	411,000
Gasoline and Auto Repair	551,000
Furniture	115,000
Food and Drinks	1,998,000
Retail Stores	131,000
Lodging[3]	786,000
Amusements	36,000
Government	133,000
Households	132,000
TOTAL[4]	$5,062,000

[1]Based on 609 responses and total season out-of-county attendance of 162,353.

[2]Because fans with children attending the UW-Madison are omitted and auto purchases are omitted, the figures presented in this table differ from those presented in a 1984 Athletic Department report based on identical data entitled "Football Saturdays: A Look at the Personal Characteristics and Spending Patterns of Football Ticket-Holders Living Outside of Dane County."

[3]Twenty-four percent of fans spend at least one night in Madison before or after the game.

[4]This table omits $2.3 million in expenditures to the UW-Madison (primarily tickets) since the University is not considered as a part of the local economy in this study.

We thus estimate that UW-Madison football has an impact of about five million dollars in direct expenditures on the local economy.

Aside from football games, two other athletic series are well-attended: basketball and hockey. Season attendance in 1983-1984 for hockey was 200,126. Approximately 32,500 fans, or 16.25%, were estimated as coming from out-of-county. For basketball, season attendance was 98,280, with approximately 20%, or 20,000, from out-of-county.[1]

No expenditure data were obtained. However, it is probable that fan expenditures are considerably less for these sports than for football. These sports events often take place on week nights, when fans must drive in after a day's work, and leave immediately after the game. Colder weather is also a factor influencing spending. We thus conservatively estimate that the economic impact from out-of-county attendees of these sports is in the vicinity of $500,000, or about $10 per visitor.

The Athletic Department's programs bring other visitors in addition to fans. An estimated 8,700 athletes and athletic staff from other universities came to the UW-Madison for an average of two days during the 1982-1983 academic year. We assume a similar figure for the 1983-1984 academic year, and estimate their total expenditures at $783,000 based on an Athletic Department estimate of $45 per athlete per day.

Still other types of visitors frequent Camp Randall. Individuals participate in conferences and seminars, prospective students investigate programs, and alumni return to see their favorite coaches. We combine these visitors with the

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[1]Percentage estimate for hockey obtained from a Dane County Coliseum study which found that 16.25% of season hockey ticket holders were from out-of-county. Out-of-county basketball attendance estimated by Athletic Department.

rest of the University when we discuss these categories later in the section entitled "Visitors on University-Related Business."

In sum, the UW-Madison Athletic program was responsible for about 223,000 visitors to Dane County in 1983-1984, with an estimated direct impact of about $6.3 million.

VISITS BY PARENTS AND FAMILY

The sight of a student on campus accompanied by look-alikes of various ages is a familiar one. Parents, brothers, and sisters of students comprise one of the major groups of visitors to campus. Frequently, they come for a football weekend, for a special event involving the student, or just to deliver the student and his or her paraphernalia in the fall and reload again in the spring.

To count parent visits and assess their expenditures, we employed five surveys. The major survey, addressed "To the parents of . . ." went to 300 randomly selected permanent addresses of students who indicated on their registration form that their permanent address was outside of Dane County (see Appendix A). Two hundred twenty-two usable surveys were returned for a response rate of 74%.

The survey was conducted in November, 1983 when the academic year was only a few months old. In the questionnaire we asked parents to estimate the <u>total</u> number of visits during the academic year, including those not yet made. Ninety-two percent of parents who responded said they would visit, with an average of 4.8 visits a year. However, because of the way in which data was collected, we suspect a social desirability effect may be present; i.e., parents may overestimate whether they visit, and if so, how often. There is no way to determine how much error this introduces. However, in partial defense, it should be noted that 78% of the parents surveyed had already visited at least once, no doubt to bring their son or daughter to campus.

Another possible source of error stems from response bias, i.e., non-visiting parents may have been less likely to complete the survey than visiting parents. We anticipated this problem and tried to control for it by asking parents in the letter accompanying the survey to return the questionnaire even if they had no plans to visit. Also, the unusually high response rate (74%) makes it even more unlikely that this type of error is of consequence.

With these points in mind, we estimate 101,200 parent visits in this category. Our calculations are illustrated in Table 5-3.

There are still several other categories of students with parents who may visit besides those students with out-of-county addresses. Students who list permanent addresses in Dane County may still have parents outside the county, and foreign students may also receive visits from their families. Married students might be visited by in-laws.

To count these visits, randomly selected undergraduates with Dane County permanent addresses received phone calls. Graduate students with Dane County permanent addresses and foreign students were sent special surveys, and married students were asked about in-law visits in series of questions on the general student survey discussed in Chapter 4 of this report. The results are described in Table 5-3, which illustrates 27,700 additional visits for a total of 128,900 parent visits.

We adjust this figure downward to reflect parent visits in which the primary purpose is business. This was determined from a question on the major parent survey, revealing that 9.5% of parents came to Madison primarily for business reasons.

TABLE 5-3

Estimation of Parent Visits

Category	A Category Size[1]	B Adjusted for Siblings[2]	C Percent with Parents Outside Dane	D Potential Parent Visits (B×C)	E Percentage Who Actually Visit	F Average Number of Visits	G Total Visits (D×E×F)
All students with permanent addresses outside Dane[3]	25,586	22,925	100	22,925	.92	4.8	101,200
Undergrads with Dane permanent address[4]	8,613	7,717	.37	2,855	.63	5.0	9,000
Grads with Dane permanent address[5]	4,237	3,796	.82	3,113	.52	4.0	6,500
Specials with Dane permanent address[4]	2,088	1,871	.37	692	.63	5.0	2,200
Foreign students[6]	2,551	2,500	100	2,500	.39	1.0	1,000
In-law visits[7] (non-student spouses)	3,700	--	.75	2,800	.85	3.8	9,000
PARENT VISITS							128,900
Less approximately 9.5% visits for business purposes[8]							- 12,200
TOTAL VISITS[9]							116,700

[1]Based on figures from the registrar's office. Total 1983 fall enrollment was 43,075.

[2]The major mail survey of 222 parents showed 20.8% of students have a brother or sister who is also a UW-Madison student. Since for these students parent visits would be double counted, we adjusted by subtracting half of this percentage from each category size, excluding foreign students. Parents with more than one child attending were not found to visit more frequently, and there was no statistically significant difference between Wisconsin and non-Wisconsin parents in the number of children attending the UW-Madison.

[3]Estimates in columns C, E, and F were derived from the major mail survey of 222 parents, excluding those who came for business purposes. The percentage of parents who actually visit at least once was not different statistically between Wisconsin parents and non-Wisconsin parents. Among those parents who do visit there was a statistically significant difference in visit frequency. Non-Wisconsin parents visit an average of 3.8 times per year. This is not surprising when one considers that about half of out-of-state parents live in Minnesota or Illinois. Wisconsin parents visit an average of 5.3 times a year. In the table we group non-Wisconsin and Wisconsin parents together using a weighted average for the purpose of simplification.

[4]Estimates in columns C, E, and F were derived from a telephone survey of undergrads with Dane County permanent addresses yielding 131 usable responses.

[5]Estimates in columns C, E, and F were derived from a mail survey of graduate students with Dane County permanent addresses yielding 50 usable responses.

[6]Estimates in columns C, E, and F were derived from a mail survey of foreign students yielding 23 usable responses.

[7]To determine in-law visits (i.e., visits by parents of student spouses where spouses are not also students) we added a series of questions to the student survey discussed in Chapter 4 of this report. Thirteen percent of students are married, and two-thirds have a spouse who is not also a student, yielding an estimated 3,700 students in this category. Estimates in columns C, E, and F were derived from responses given by the 36 students in the survey who were married.

[8]The major mail survey of 222 parents showed 9.5% visited Madison primarily for business purposes. We subtract this percentage so the final total reflects only visits to students.

[9]This final figure does not reflect either the average number of parents and siblings who visit each time or the length of their stay. It only represents visits by parent "parties" of indefinite size staying for an indefinite number of days.

Table 5-4 presents expenditures categorized by their benefit to Dane County businesses. Expenditure averages were derived from the major parent survey, and we make the assumption that these figures apply to all student categories. Averages were based only on those parents who did not come primarily for business reasons, because business expenditures are likely to be higher than student visit expenditures, inflating the averages. The average student visit expenditure was $165 excluding vehicle purchases.[2]

Two cautions need to be made regarding this average. First, it is very likely that expenditures by parents of foreign students are higher than the average parent expenditure, but our sample of foreign students was too small for any meaningful amounts to be determined. Second, we note that it is possible that our $165 expenditure figure may be on the high side in the context of the entire academic year. Parents may be likelier to spend more at the beginning of the school year, when we collected our data, than later in the school year. Since we have no educated basis for adjustment, and cannot be certain there is a spending decline from visit to visit, we leave the figures as they are.

In summary, we estimate 116,700 parent visits with an estimated direct impact of about $19.2 million.

VISITS BY FRIENDS OF STUDENTS

The dual combination of long-time student friendships and Madison's charms would be expected to attract a number of non-family visitors to UW-Madison students. To determine how many friends came and what they spent, we included several questions on the general student survey discussed in Chapter 4. These questions asked students not to count visits by parents. Our findings are presented in Table 5-5, with total expenditures estimated at approximately $45.5 million.

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[2]See section of this chapter entitled "Vehicle Purchases by Visitors."

TABLE 5-4

Total Expenditures by Parents[1]

Transportation	$ 473,000
Personal Services	313,000
Department Stores	2,516,000
Clothing	3,412,000
Gasoline and Auto Repair	1,711,000
Furniture	1,058,000
Food and Drinks	5,634,000
Retail Stores	866,000
Lodging[2]	2,688,000
Amusements	264,000
Government	171,000
Households	111,000
TOTAL[3]	$19,217,000

[1]Based on 158 responses by parents who had already visited. Visits for business purposes were not included in the analysis.

[2]Seventeen percent of parents pay an average of $92 for lodging. Presumably, the rest either do not stay overnight or stay with their son or daughter. This dollar figure, rather than being a daily average, represents their total visit expenditure on lodging.

[3]This table does not include $2.2 million in expenditures to the University, since the University is not considered as a part of the local economy in this study.

TABLE 5-5

Visits by Friends of Students

Survey findings[1]

Average number of visitors per month	2.0
Average length of stay	2.5 days
Average daily expenditure[2]	$27

Estimate of visits

Total visits during regular school year[3]	689,000
Total visits during summer school[4]	61,000
Total visits	750,000

Estimate of visitor-days

Total visitor-days (Total visits × 2.5)	1,875,000

Estimate of expenditures to local economy

Total expenditures (Visitor-days × $27)	$50,625,000
Less approximately 10% expenditures to UW-Madison[5]	- 5,125,000
TOTAL	$45,500,000

[1]Based on 266 responses.

[2]Students estimated friends' expenditures. See Table 5-6, footnote 2.

[3]Based on an 8-month school year and a student enrollment of 43,075.

[4]Based on a 2-month summer session and a student enrollment of 15,025. We assume the survey findings also apply to the summer.

[5]We were unable to determine from our data what percentage of expenditures by friends of students were made to the University. Our rough approximation of 10% is based on percentages from the other surveys we conducted.

We identified three factors which may have an effect on the accuracy of this estimate. The first of these factors contributes to underestimation. While at first glance the $45.5 million figure may seem to be somewhat high, it actually omits many college-age visitors who come to Madison simply to party

because of the University's presence. For example, the annual student-sponsored Halloween party on State Street has an attendance of 50,000-100,000. Many of these revelers would not be included in our estimates if they do not stay with student friends.

The second factor may contribute to overestimation. It is possible that, in completing the survey, students included their roommate's visitors as well as their own, resulting in double-counts. We have no basis for determining if this effect is sizable or not, so we assume students followed instructions on the survey properly.

The third factor may also lead to overestimation. If student's friends also attend football games they could be double-counted. We believe this effect is slight since less than 6% of the out-of-county football fans in the survey discussed earlier were of college age.

VISITS BY FRIENDS OF UNIVERSITY EMPLOYEES

Faculty members and other University employees are likely to entertain guests at their homes on a regular basis. To count these guests we included several questions on the general employee survey discussed in Chapter 3. Our findings are presented in Table 5-6, with total expenditures estimated at approximately $27.3 million. The estimate does not include UW Extension faculty.

This figure also does not include visitors on University business, as the survey questions asked respondents specifically to omit such visitors from their count. Although it may include some football visitors, the number overlapping is unlikely to be large. More than three-fourths of out-of-county football fans go home after the game and only 3% stay more than two nights, while the average employee guest stay is 4 days. And though there may also be an occasional overlap with parent visits, the amount is probably so slight that they are likely to have a negligible effect on our totals.

We do, however, adjust our figures downward to reflect those visitors who come to Dane County primarily for business purposes.

TABLE 5-6

Visits by Friends of University Employees

Survey findings[1]	
Average number of visitors per month	2.2
Average length of stay	4.0 days
Average daily expenditure[2]	$26
Estimate of visits	
Total year visits[3]	314,000
Estimate of visitor-days	
Total visitor-days (Total visits × 4.0)	1,256,000
Less approximately 10% of visitor-days for business purposes[4]	1,130,000
Estimate of expenditures to local economy	
Total expenditures (Visitor-days × $26)	$29,380,000
Less approximately 7% expenditures made to UW-Madison[5]	- 2,080,000
TOTAL	$27,300,000

[1]Based on 128 responses.

[2]University employees estimated friends' expenditures. The average figure is $1 lower than student friends' expenditures, which possibly suggests this estimate is either too low or the student estimate too high. Based on our estimates of the average daily visitor expenditure (Table 5-10), we believe the former, but nevertheless forego adjusting our figures.

[3]Based on a twelve-month year and 11,911 University employee households. See Chapter 3, footnote 3.

[4]Some percentage of the visitors to University employees actually have non-University business in Madison as the primary purpose of their visit. We use an estimate of 10% based on the findings of the parent survey (Table 5-3).

[5]We were unable to determine from our data what percentage of expenditures by friends of University employees were made to the University. Our rough approximation of 7% is based on percentages from the other surveys we conducted and the probability that friends of employees spend less money to the University than would friends of students.

VISITORS ON UNIVERSITY-RELATED BUSINESS

Considering the size and stature of the University of Wisconsin-Madison, a large and vastly diverse parade of daily visitors is to be expected. These visitors attend conferences, repair sophisticated laboratory instruments, recite poetry, interview for University positions, learn about recent scientific advances, review grants, or play symphonies. This list describes but a fraction of the reasons for visiting the UW-Madison on business. Counting and categorizing these visitors proved to be the most formidable task of this study.

Each administrative office, department, center, and institute at the UW-Madison received a survey in the fall of 1983 asking for visitor counts in a variety of categories during the 1982-83 school year (see Appendix A). Respondents were asked to put each visitor in only one category. Out of the 377 who received questionnaires, 239 replied for a response rate of approximately 63%.

The counts which follow based on these replies can, however, only be considered very rough approximations for the following reasons:

- Although departments, etc. were asked in two different places on the survey to confine their visitor counts to those visitors who came from outside of Dane County, it is possible that a few departments still included local visitors.
- Since departments were asked for 1982-83 visitor counts, it is necessary to assume that the numbers are fairly constant from year-to-year in order to apply them to 1983-84.
- Virtually all departments estimated their visitor counts from memory since hard "turnstyle" data was not kept.
- For several visitor categories, such as salespeople or prospective students, it is especially likely that more than one department counted the same visitor.

- Some departments combined their counts while others requested additional surveys for various individuals and groups within a department. It was thus not possible in certain instances to determine if a department was overlooked or if two respondents in the same department counted the same visitor.
- Different departments may have defined visitor categories differently.
- There is probably a slight degree of overlap among visitors on University-related business and several of the visitor categories discussed earlier. For example, some friends of students may also be double-counted as prospective students. Some of the alumni who attend football games may stay in Madison until the following Monday to conduct business with the University and are counted twice. However, there should be no overlap with either parent visits or visits by friends of employees since we anticipated this problem and adjusted our estimates accordingly.
- Except for UW Extension conference participants, we do not include visitors to UW Extension departments and offices.
- It was necessary to extrapolate from the 63% who replied to the entire University. If the 37% who did not reply had fewer visitors on average than the 63% who did reply, our extrapolation would be too high. If, on the other hand, the 37% consisted largely of departments who failed to reply because of the difficulty and time involved in counting their numerous visitors, our estimates would be low. We were unable to determine empirically which, if either, was the case. Examination of the non-respondent list, however, revealed a number of departments that could be expected to receive a larger than average number of visitors. In the

visitor categories that follow, we conservatively assume that non-respondents have the same average number of visitors as respondents.[3]

Conference/Seminar Attenders

The UW-Madison and UW Extension offer an extremely broad range of seminars, conferences, and workshops targeted at virtually every segment of society. Approximately 40,100 conferees from outside of Dane County attended UW-Madison functions for a total of 155,600 visitor-days. An additional 25,200 attended UW Extension programs for a total of 58,900 visitor days.[4] The UW-Madison departments with the largest attendance figures are listed in Table 5-7.

TABLE 5-7

UW-Madison Departments with the Largest Conference/Seminar Attendance

Department	Visitors	Visitor-Days
School of Business	3,732	41,939
Intercollegiate Athletics	2,235	13,410
Instructional Media Distribution Center	1,035	3,623
Meat and Dairy Science	1,500	3,000
Experimental Farms	2,580	2,580

[3] We used two extrapolation techniques to obtain visitor totals by category of visitor. The first simply involved dividing the total sum of all visitors in a given category obtained from the 239 surveys by .63, the response rate. The second involved calculating category averages by school or major group, multiplying by the size of the group, and summing across groups. We conservatively chose the smaller of the two resulting totals. For visitor-day totals we used the first technique only.

[4] UW Extension official records show 31,388 conferees and 73,213 visitor days. However, an examination of conference rosters listing 5,394 conferees revealed that 19.6% had a home address inside of Dane County, so these conferees were eliminated from our count.

Speakers/Lecturers/Performers

Numerous individuals of academic, political, or artistic renown appear on campus. An estimated 4,000 came during the 1982-83 academic year for a total of 9,800 visitor-days. This count omits performers and large performing groups appearing at Memorial Union since data was unavailable in a usable form. Also omitted are estimates of out-of-county audience member attendance. We choose to ignore these visitors for two reasons. The first is that we assume most of their expenditures were made to the University rather than the local economy. The second is that it was simply impractical to try and count them.

Visiting Scholars/Scientists/Artists/
Medical Practitioners/Educators

Academics and professionals who are not considered UW-Madison faculty or academic staff frequently come to campus for extended periods to confer with colleagues or conduct research. Approximately 4,000 such individuals visited for a total of 63,200 visitor days.

Visiting/Adjunct Faculty/Staff

Visiting faculty from other universities and colleges (on UW-Madison payroll) enrich the campus each school year. Approximately 800 visiting faculty members came in 1982-83 for an approximate total of 63,100 visitor days. However, since these individuals are counted as faculty members we do not include them in our visitor totals.

Prospective Students

Since choice of a college or university is clearly a major life decision, it is to be expected that many students and working adults who are considering various schools would visit the campus. We initially estimate that 31,400 such students came in 1982-83 for a total of 45,200 visitor days. It is probable,

however, that this total is highly inflated due to multiple counts of the same student visiting different departments. If we conservatively assume that every student was counted three times, we arrive at a figure of approximately 10,000, with a projected visitor-days total of 14,400.[5]

Candidates for Faculty/Staff Positions

A university recruits, selects, and hires applicants for open positions just as any other organization does. Approximately 3,300 individuals came to Madison to be interviewed, for a total of 6,200 visitor days.

Placement Interviewers

Large corporations as well as smaller Wisconsin businesses come to Madison to recruit job-hunting seniors, masters' degree candidates, and highly skilled Ph.D. students. About 4,300 such recruiters came to Madison for approximately 8,400 visitor days. As might be expected, the largest totals were provided by the placement offices at the College of Engineering and School of Business.

Business and Industry Representatives

Individuals from business firms all over the United States visit the UW-Madison to take advantage of faculty expertise, learn about new scientific developments, and jointly conduct research. In addition, to help support the UW-Madison's sophisticated computers, consultants representing the manufacturer locate at the computer site to provide assistance. About 5,800 such business representatives visited in 1982-83 for a total of 18,900 visitor-days.

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[5]We use this same adjustment procedure logic for several other visitor categories. While admittedly arbitrary, it is preferable to overcounting.

Foundation/Non-Profit Agency Representatives

The UW-Madison, with the third largest research budget of any university in the United States, is at the forefront of advances in all fields. To some extent this research is supported financially by non-governmental agencies which send representatives to campus to investigate grant applications and inspect work done on grants already awarded. About 700 such representatives visited campus for an approximate total of 800 visitor-days.

U.S. Government Agency Representatives

Government agencies send representatives to investigate grant applications and review research progress. Approximately 1,300 government representatives visited for a total of 2,600 visitor-days.

Foreign Government Agency Representatives

Numerous foreign countries send delegations to the UW-Madison for a variety of purposes. About 12,800 such visitors came to Madison for a total of 14,000 visitor-days.

Technical Advisors/Consultants

The complex nature of research laboratory instruments and computer hardware and software require technical expertise not always available among UW-Madison faculty and staff. Construction also requires considerable outside assistance. About 2,200 technical advisors and consultants visited for a total of 8,900 visitor-days.

Sales and Repair People

Both textbook salespeople and representatives of pharmaceutical firms find the UW-Madison an attractive market. In addition, the University makes a never-ending array of necessary purchases, each of which corresponds to a salesperson

eager for a sale. University typewriters, word processors and copy machines break down on a disappointing but predictable basis, and more sophisticated instruments may need adjustment or calibration. For all of these reasons and many others, an initial estimate of 13,000 visitors and 27,300 visitor-days in this category is not surprising. This figure must, however, be adjusted downwards to reflect the possibility of multiple counts of the same visitor. If we assume each visitor is counted twice, our adjustments lead to estimates of 6,500 visitors and 13,700 visitor-days.

Visiting Alumni

Many graduates of the UW-Madison miss their alma mater. This is reflected by the return visits of approximately 9,600 in 1982-83 for a total of about 15,100 visitor-days.

Patients and Patient Visitors

The outstanding reputation of the Medical School and University Hospital and Clinics attracts patients from the entire United States and many foreign countries. About 152,000 patients came to Madison for a total of 271,000 patient-days during 1982-83.[6] These patients had 143,000 visitors for an additional total of 270,500 visitor-days.

Other Visitors

A variety of other types of visitors came to the UW-Madison. Table 5-8 provides a description of some of the larger totals.

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[6]These figures based on estimates provided by University Hospital and Clinics and various Medical School departments; 12,850 hospital patients stay for an average of 8.7 days, 130,000 clinic patients stay for an average of 1.1 days, and the remainder visit the Medical School.

TABLE 5-8

Other Visitors to the University in 1982-83

Type of Visitor	Number	Visitor-Days
Elvehjem Museum[1]	17,500	17,500
American Dairy Sciences Association	2,000	6,000
Summer Orientation and Advising for Registration	1,800	3,600
Parents of Prospective Students	1,150	2,300
Board of Regent Meetings	1,000	2,000
FFA Judging Contest	2,000	2,000
Truck Lines	1,250	1,300
Memorial Library[2]	1,000	1,000
Arboretum	1,000	1,000
Miscellaneous	8,000	10,000
TOTALS	36,700	46,700

[1]The Elvehjem Museum originally estimated 35,000 out-of-county visitors. We halve this figure based on further input from museum staff to adjust for double-counting of people who visited the museum while on a parent visit, business visit, etc.

[2]Memorial Library was unable to provide data on out-of-county visitors in a usable form. 1,000 is our conservative (and probably low) estimate.

Table 5-9 summarizes the totals described above. The University of Wisconsin-Madison receives almost half-a-million out-of-county visitors on University business, who collectively generate approximately a million visitor-days. We roughly estimate, based on analysis of the data, that approximately 25% are from outside of Wisconsin.[7]

[7]Fifteen percent of patients and patient-visitors are from out-of-state and 40% of other visitors on University-related business are from outside of Wisconsin.

TABLE 5-9

Summary of Visitors on University-Related Business

Type of Visitor	Number of Visitors	Visitor-Days
UW-Madison Conferences	40,100	155,600
UW Extension Conferences	25,200	58,900
Speakers	4,000	9,800
Visiting Scholars	4,000	63,200
Prospective Students	10,000	14,400
Candidates for Positions	3,300	6,200
Placement Interviewers	4,300	8,400
Business Representatives	5,800	18,900
Foundation Representatives	700	800
U.S. Government Representatives	1,300	2,600
Foreign Government Representatives	12,800	14,000
Technical Advisors	2,200	8,900
Salespeople	6,500	13,700
Alumni	9,600	15,100
Patients	152,000	271,000
Patient Visitors	143,000	270,500
Other	36,700	46,700
TOTALS	461,500	978,700

Expenditures by Visitors on University-Related Business

It was not feasible for us to obtain expenditure estimates by visitor category since visitors are scattered all over the University, and we lacked the large-scale resources needed to do an adequate job of tracking them down. Instead, we obtained expenditure estimates from four sources[8]:

- 408 randomly selected out-of-county participants in UW Extension conferences, workshops, and seminars
- 69 randomly selected participants in the Bank Administration Institute program
- 111 randomly selected participants in the Graduate School of Banking program
- Data from the Greater Madison Convention and Visitors Bureau.

[8]Response rates cannot be reported since we did not determine if questionnaires were discarded because respondents were Dane County residents.

Table 5-10 summarizes the findings.

TABLE 5-10

Daily Expenditure Estimates for Visitors on University-Related Business[1]

Data Source	N	Total Daily Expenditure	Comments
(1) UW Extension Conference participants	36	$ 17	No overnight lodging; one day conference
(2)	240	$102	Overnight lodging at hotel
(3)	113	$ 68	Overnight lodging at UW Extension facilities
(4)	(41)	($32)	(Expenditure if lodging removed from (3) above)
(5)	19	$ 33	Lodging with Madison resident
(6)	408	$ 82	Average for all participants
(7) Greater Madison Convention and Visitors Bureau	--	$ 85	Based on national data; adjusted for Madison lodging costs
(8) Bank Administration Institute	69	$ 37	Does not include meals or lodging
(9) Graduate School of Banking	111	$ 58	Does not include meals or lodging

[1]All estimates exclude expenditures to the UW-Madison.

The data in Table 5-10 serves as a basis for the daily expenditure estimates we will employ. For visitors who stay in hotels or motels, we use a daily expenditure estimate of $94 based on the average of lines (2) and (7) in Table 5-10. For other visitors we use a figure of $35 derived by averaging lines (1), (4), (5), (8) and (9), which represent expenditures by visitors excluding lodging.

To extend these two expenditure figures to all visitors and determine the total impact, we derived a percentage breakdown of visitor lodging. The findings are presented in Table 5-11.

TABLE 5-11

Lodging for Visitors on University-Related Business

Type of Lodging	UW-Madison[1]	University Hospital and Clinics[2]
Hotel/motel	36%	8%
University facilities	18%	1%
No overnight lodging	39%	66%
Guest at private house or apartment	6%	6%
Rented house or apartment	1%	--
University Hospital	--	19%
	100%	100%

[1]Percentages were derived from the department survey. Percentages from each individual survey were multiplied by the total number of visitors in that department, and the resulting partial visitor counts by type of lodging were then summed across all departments. This sum was then divided by the total number of visitors to obtain a weighted percentage for each type of lodging.

[2]Percentages were provided by University Hospital and Clinics.

Because sample sizes were too small, we were not able to derive separate expenditure figures for each type of lodging. We therefore simplify and make the distinction between those visitors who stay in a hotel or motel and those who do not. Using these percentages, and the expenditure averages described above, we come up with the estimated impact of visitors on University-related business, amounting to about $43.5 million. The procedure we use is described in Table 5-12.

TABLE 5-12

Total Expenditures by Visitors on
University-Related Business

1) Expenditures by non-hospital visitors using hotel/motel lodging:

Non-hospital visitor-days	437,200
36% using hotel/motel lodging	157,392
$94 per visitor-day	$14,795,000

2) Expenditures by non-hospital visitors using other lodging or none:

Non-hospital visitor-days	437,200
64% not using hotel/motel lodging	279,808
$35 per visitor-day	$ 9,793,000

3) Expenditures by hospital patients and visitors using hotel/motel lodging:

Hospital visitor-days	541,500
Less 111,295 in-patient-days	429,705
8% using hotel/motel lodging	34,376
$94 per visitor-day	$ 3,231,000

4) Expenditures by hospital patients and visitors using other lodging or none:

Hospital visitor-days	541,500
Less 111,795 in-patient-days	429,705
92% not using hotel/motel lodging	395,328
$35 per visitor-day	$13,837,000
TOTAL	$41,656,000

It should be noted that four assumptions are implicit in the estimating procedure used in Table 5-12. The first is that the hotel and non-hotel lodging percentages, although derived from visitor totals, are equally applicable to visitor-days. The second assumption is that individuals on one-day trips to Madison do spend an average of $35 on such purchases as food, gifts, and

gasoline, even if they are only here a short while.[9] The third assumption is that visitors to University Hospital and Clinics have an expenditure average which is equivalent to non-hospital visitors on University-related business. This may not, in fact, be the case for those who do not use hotel/motel lodging, since some visitors to patients may only come to Madison briefly and probably spend somewhat less than $35. However, since we do not have any data from University Hospital visitors, we use the $35 figure. The fourth assumption, a major one, is that hospital patients spend no money in the local economy; all of their expenditures are made to the University. This assumption is probably not true, and if so, this would tend to put our final total on the low side. We do, however, count patients as visitors.

Our expenditure estimate omits money paid to the University by visitors on University-related business. This amount is no doubt substantial in view of the 18% of visitors who use University lodging (e.g., Wisconsin Center Guest Hall, Friedrick Center, dormitories, etc.). Based on our limited information, however, we are unable to estimate how much it potentially is. However, as pointed out previously, the University is not considered as part of the local economy for the purposes of this study. Similarly, the 541,500 out-of-county patient and visitor-days for University Hospital and Clinics generates a very sizable revenue to the University which is again not counted. Since the amount of revenue attributable to out-of-county patients is unclear, and since the amount is not directly germane to this study, we once again defer making an estimate.

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[9]See text immediately following Table 5-10 for a description of how this figure was derived.

SUMMARY AND IMPLICATIONS

Tables 5-13 and 5-14 summarize the findings of the previous sections. These results suggest some of the following observations of interest:

- With almost 2 million out-of-county visitors per academic year, the University of Wisconsin-Madison is clearly one of the state's major visitor attractions. The number would no doubt be substantially larger if it included local visitors.
- On any given weekday during the school year, roughly 2,000 visitors are on campus for business purposes.
- On any given weekend an average of about 25,000 parents, friends of students, and friends of University employees are visiting. Over 90% of these visitors are staying in a private home or apartment. Of course, football weekends increase the numbers considerably.
- Of all visitor categories, visits by friends of students seem to have the largest economic impact. This alone offers the potential of new marketing strategies for Dane County businesses and for those whose mission involves increasing tourism in Madison.
- Visitors on University-related business come not merely because the University exists, but because of the reputation, knowledge, and scholarly contributions of faculty and academic staff. Each faculty member and academic staff employee accounts for about 75 visitors on University-related business.
- Visitors, particularly friends of students and University employees, are likely to influence local consumer spending, resulting in expenditures by Dane County residents that might not otherwise occur (e.g., meals in restaurants, theatre tickets, etc.).

TABLE 5-13

Summary of Visitors and Visitor Expenditures

Type of Visitor	Number of Visitors	Number of Visitor-Days	Estimated Economic Impact[9]
Athletic Department[1,2,3]	223,500	270,500	$ 6,300,000
Parents[4,5]	233,400	350,000	$ 19,200,000
Friends of Students[6]	750,000	1,875,000	$ 45,500,000
Friends of University Employees[7]	314,000	1,130,000	$ 27,300,000
University-Related Business[8]	461,500	978,700	$ 41,600,000
TOTALS	1,982,400	4,604,200	$139,900,000

[1]See the section of this chapter entitled "Visitors to Athletic Events and Programs" for detail.

[2]Assumes average of one visitor-day for basketball and hockey.

[3]Football visitor-days calculated based on the following percentages obtained from the survey of football visitors:

76% leave after the game
11% stay overnight
10% stay two nights
3% stay three nights or longer

[4]See the section of this chapter entitled "Visits by Parents and Family" for detail.

[5]Data regarding parents' length of stay and the number of parents and siblings per visit was not collected. We assume 2 parents per visit and 1.5 days per visit. While the 2 parents per visit estimate may be high due to single parent visits, it is probably offset by visits of both parents and siblings. In either case, these assumptions do not affect the economic impact since it was derived independently.

[6]See the section of this chapter entitled "Visits by Friends of Students" for detail.

[7]See the section of this chapter entitled "Visits by Friends of University Employees" for detail.

[8]See the section of this chapter entitled "Visitors on University-Related Business" for detail.

[9]Figures rounded to the nearest $100,000.

TABLE 5-14

Total Visitor Expenditures by Industry[1]

Transportation	$ 9,800,000
Personal Services	1,100,000
Department Stores	14,700,000
Clothing	12,100,000
Gasoline and Auto Repair	11,800,000
Furniture	10,800,000
Food and Drinks	54,100,000
Other Retail Stores	7,600,000
Lodging[2]	13,600,000
Amusements	1,900,000
Government	1,900,000
Households	500,000
TOTAL[3]	$139,900,000

[1]No industry breakdown was obtained for non-football athletic visitors, friends of students, and friends of employees. To approximate expenditures by industry, a percentage estimate was derived using the data obtained from the survey of 408 UW Extension conference participants. With lodging costs removed, we assume that the proportion of the total spent by an Extension visitor for each industry category is applicable to other types of visitors. For example, Extension visitors spent about 44% of their money locally at eating and drinking places. We assume that non-football athletic visitors, friends of students and friends of faculty spend an equivalent proportion. This logic is applied to each industry category.

For visitors on University-related business that do not use hotel/motel lodging, the logic described above was used. For those that do pay for lodging, a different set of percentages were derived using data from the 240 Extension participants in the sample that stayed in hotels or motels.

Football and parent visitor expenditures were taken from Tables 5-2 and 5-4.

To avoid the implication of exactness, figures are rounded to the nearest $100,000.

[2]We assume friends of students and friends of employees do not pay for lodging. This assumption probably understates the actual amount.

[3]The assumption is made that visitors do not spend money in local food stores. This probably understates the total.

It can be argued that the $140 million brought into Dane County by visitors means that $140 million less is spent elsewhere in Wisconsin. However, we conservatively estimate that of the $140 million, roughly $38 million is from out-of-state. This estimate is developed in Table 5-15.

TABLE 5-15

Estimates of Out-of-State Visitors and Expenditures

Type of Visitor	Approximate Percentage from Out-of-State	Approximate Number of Out-of-State Visitors[5]	Approximate Expenditures Made by Out-of-State Visitors[5]
Athletic Department[1]	.20	45,000	$ 1,200,000
Parents[2]	.23	54,000	4,400,000
Friends of Students[2]	.23	172,000	10,400,000
Friends of University Employees[3]	.20	64,000	5,400,000
University-Related Business[4]	.25	115,000	16,300,000
		450,000	$37,700,000

[1]Out-of-state percentage based on 18,875 visiting team block tickets, about 10% other football attendance from out-of-state (mostly northern Illinois), and out-of-state visiting athletes.

[2]Twenty-three percent of students are from out-of-state according to the UW-Madison Enrollment Report. We assume that their parents and friends come from out-of-state as well. This figure is probably low because it does not include students with Wisconsin permanent addresses who nonetheless have parents and friends from out-of-state.

[3]We have no out-of-state data relating to this category. The estimate is probably low, since most faculty are not originally from Wisconsin and will probably have a much larger percentage of visitors from out-of-state.

[4]This is a weighted percentage derived from the survey of departments. Forty percent of visitors on University-related business are from out-of-state, and 15% of hospital patients and visitors are from outside of Wisconsin. It is especially likely that out-of-state visitors in this category use hotel/motel lodging. If we assume that about 75% do (in contrast to the 39% of all visitors on University-related business who use hotel/motel lodging) then simply taking

25% of the total expenditures in this category to determine expenditures by out-of-state visitors would be too low, since they spend more. We thus use an adjusted figure of $16.3 million.

[5]Figures derived from Table 5-13, except for expenditures by out-of-state visitors on University-related business (see footnote 4).

CAVEATS

Multiple Counting

One source of potential error that kept us alert throughout the study was the possibility of double counting. This difficulty is acknowledged throughout, however, and efforts made to control the problem are detailed. Table 5-16 summarizes the potential extent of this type of error.

TABLE 5-16

Possibility of Multiple Counting
Within and Between Visitor Categories

	Athletic Visitors	Parents	Friends of Students	Friends of University Employees	Visitors on University Related Business
Athletic Visitors	-	-	-	-	-
Parents	2	-	-	-	-
Friends of Students	3	2	-	-	-
Friends of University Employees	3	3	2	-	-
Visitors on University-Related Business	3	2	3	2	1

[1]Possibility of multiple counts if visitors go to more than one department; some estimates adjusted.

[2]Multiple counting between visitor categories controlled for in research design.

[3]Multiple counting not controlled for in research design; effect unknown but likely to be small relative to totals.

Vehicle Purchases by Visitors

The issue of vehicle purchases by out-of-county visitors proved to be a thorny one for two reasons. First, the low number of questionnaire responses on the vehicle question(s) rendered it impossible to make a statistically reasonable estimate of overall new and used auto, motorcycle, and truck purchases. Secondly, even if an estimate were possible, it would have been impossible to isolate which purchases were due to the presence of the University.

Therefore, although we did detect some vehicle purchases by visitors that we felt were related to the presence of the University, we elected to ignore them as a factor in the economic impact of the campus on the community. We were forced to conclude that that question could not be answered by this study. To the extent that they may occur, the expenditure estimates in Tables 5-4, 5-13, and 5-14 will be low.

It is important to note, however, that out-of-county visitors do buy vehicles in Dane County.

They could have been bought by visitors in any of the categories described earlier in this chapter. We found, for instance, two autos purchased in Dane County by football fans and another two by parents. It is certainly conceivable that friends of students or UW-Madison employees elected to buy vehicles here, and that even some business visitors made purchases.

It is the twin issues of "how many" and "was it because of the University" that remain to be answered, however.

Auto purchases are not made frivolously, and could occur independently of whether or not the purchaser came to Madison because of the University. But there undoubtedly are those individuals from smaller Wisconsin communities who, unable to buy the vehicle of their choice locally, may defer their purchases until coming to Madison -- and who may time their purchases to coincide with a visit to a football game, friend, or child.

We have few doubts, then, that the University is at least indirectly responsible for some Dane County vehicle purchases. But a careful analysis of the whole issue has led us to the conclusion that the only Dane County vehicle purchases by visitors that should be credited directly to the University -- when that data is available -- are those by out-of-county parents for their student children.

CONCLUDING REMARKS

To conclude, we simply point to our estimates as evidence that visitors to the University of Wisconsin-Madison are a crucial part of the local economy.

The numbers are very large. They surprised us and may jar readers' thresholds of credibility. However, the reader should consider that the total University community includes over 80,000 students, employees and their families, who indirectly through their visitors, account for a sizable percentage of the totals. Also, we wish to point out that we took great pains to be both thorough and conservative in our estimates, so that we could count heads and dollars as accurately and credibly as possible.

CHAPTER 6

THE TOTAL IMPACT

INTRODUCTION

In this concluding chapter, the expenditure amounts discussed in Chapters 2 through 5 are brought together to determine the total economic impact of the University on Dane County and Wisconsin.

First, the direct impact is examined; this includes all purchases, local taxes, donations, and other expenditures made in Dane County attributable to members of the University community. Next, the indirect impact is considered via the use of multipliers, which take into account the fact that these University-related dollars, once spent, are subsequently respent and recycled through the economy to provide income for other local businesses, government, households, and charities. The total impact thus consists of both the direct and indirect impacts.

These direct and indirect impacts create jobs in the public and private sectors of the economy, and in this chapter we attempt to estimate just how many. Also presented in this chapter are estimated percentages of both jobs and sales in each industry which can be attributed to the University.

Some percentage of the money spent locally comes from outside of Wisconsin. Estimates of this figure are offered as well to provide a view of the UW-Madison as an export industry for the state.

Not all of the University's economic influences on the local economy can be quantified. Several tangible but unmeasured factors are discussed to illustrate some additional ways that Dane County's economy benefits from the presence of the UW-Madison.

Finally, conclusions are drawn and caveats considered.

EXPENDITURES TO LOCAL BUSINESSES

Table 6-1 summarizes spending to local businesses stemming from expenditures by the University as an institution and by its employees, students, and visitors. The largest recipients of University community spending are local financial institutions, insurance, and real estate at $89 million.

Restaurants and bars received about $81 million, with two-thirds of this amount stemming from expenditures by University visitors. Auto, truck, and motorcycle dealers, repair places, and parts stores received about $61 million.[1,2] Food stores benefitted by about $54 million, and local utilities received about $46 million.

The total in direct expenditures to businesses is estimated at $537 million.

DANE COUNTY SALES ATTRIBUTABLE TO THE UNIVERSITY COMMUNITY

It will prove revealing to view University community expenditures to local businesses in the context of total economic activity in Dane County. While figures for total business sales in the county were unavailable, the total retail sales figure for 1983 was available from the Survey of Buying Power in Sales and Marketing Management magazine. In 1983, total retail sales in the county amounted to $1,813,858,000.[3] Total retail purchases by the University community came to

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[1]If the $89 million to finance, insurance, and real estate is compared to the 1971 figure of $45 million, it seemingly fails to keep pace with inflation. This is due to differing methodologies. About $24 million in rent to individuals in the current study was designated as income to households, while in 1971 all rent was designated to businesses.

[2]The auto sales and service figure is one of the admitted weaknesses of this study. See the section of this chapter entitled "Caveats."

[3]Sales and Marketing Management (July 23, 1984), p. C-210.

TABLE 6-1

Summary of Expenditures to Local Businesses (in 000's)[1]

	Institutional Expenditures	Construction Expenditures	Employee Expenditures	Student Expenditures	Visitor Expenditures	Total Expenditures
Agriculture	128	--	--	--	--	128
Construction	483	9,746	10,303	1,336	--	21,868
Manufacturing	698	--	--	--	--	698
Transportation, Communication, Utilities	468	56	16,665	18,963	9,800	45,952
Wholesalers	14,749	--	--	--	--	14,749
Building Materials, Farm Equipment	764	1,448	--	--	--	2,212
Personal and Business Services	3,659	380	7,032	8,139	1,100	20,310
Finance, Insurance, Real Estate	11,787	6	39,410	37,837	--	89,040
Department Stores	21	--	11,085	13,697	14,700	39,503
Food Stores	--	--	29,396	24,393	--	53,789
Auto Sales and Service	272	6	33,212	16,277	11,800	61,567
Apparel Stores	7	--	9,348	12,013	12,100	33,468
Furniture and Appliance Stores	490	59	9,059	1,688	10,800	22,096
Eating and Drinking Places	21	2	9,180	17,824	54,100	81,127
Other Retail Stores	700	--	8,521	8,364	7,600	25,185
Lodging Places	27	--	586	316	13,600	14,529
Amusement	--	--	2,098	2,980	1,900	6,978
	34,274	11,703	185,895	163,827	137,500	533,199

[1]Based on Tables 2-3, 2-5, 3-4, 4-2, 5-14, and footnote 1, Chapter 2.

$318,947,000 or 17.6% of the total.[4] In other words, out of e[illegible] hundred dollars spent in a local retail establishment, about $18 is spent by someone connected with the University.

Table 6-2 breaks down retail sales by industry. Almost 40% of apparel store sales, 31% of restaurant and bar receipts, 19% of purchases in department stores, and 18% of furniture and appliance sales are shown to be a result of direct expenditures by the University community.

FINANCIAL INSTITUTIONS AND EXPANSION OF THE LOCAL CREDIT BASE

Local financial institutions benefit from the University's presence in several ways. As shown in Tables 3-4 and 4-2, they receive $31 million in income from the University community through mortgage interest, and $4.4 million in service fees. A second source of revenue comes from investments and loans which are made using the money deposited by the University community in local savings and checking accounts. These deposits amount to about $183 million.

The local economy also benefits from these deposits. Because they expand the local credit base, new and existing businesses are able to borrow more for expansion purposes, and potential home buyers are able to finance their housing purchases. In total, the University community is responsible for an additional $339 million in local credit. Or, to state this differently, each $1 of University community deposits makes $1.85 available for loans. Of course, some of these loans are taken out by members of the University community.[5]

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[4]The $340 million figure represents the expenditures from Table 6-1 excluding agriculture, construction, manufacturing, transportation, utilities, wholesalers, services, finance, insurance, real estate, lodging, and amusements.

[5]The multiplier of 1.85 employed here was derived using a formula described in Appendix E.

TABLE 6-2
The Direct Impact of University-Related Expenditures in Dane County on Private Sector Sales and Employment

Industry	A Sales in Dane County[1] (in 000's)	B Purchases by the University Community[2] (in 000's)	C Private Sector Employment in Dane County[3]	D Sales Per Employee[4] (A/C)	E Employment Attributable to Purchases by the University Community[5] (B/D)	F Percentage of Sales and Employment Attributable to Purchases by the University Community[6] (B/A or E/C)
Agriculture	NA	128	672	NA	NA	NA
Construction[7]	(309,000)	21,868	5,886	52,578	415	7
Manufacturing	NA	698	18,431	NA	NA	NA
Transportation, Communication, Utilities	(1,288,000)	45,952	6,185	208,247	221	4
Wholesalers	(1,494,000)	14,749	6,893	216,742	68	1
Building Materials, Farm Equipment	64,732	2,212	865	74,835	30	3
Personal and Business Services	(152,000)	20,310	7,475	20,360	998	13
Finance, Insurance, Real Estate	NA	89,040	13,866	--	670	5
Department Stores	213,654	39,503	3,741	57,111	692	18
Food Stores	333,104	53,789	3,436	96,945	555	16
Auto Sales and Service	481,674	61,567	2,858	168,535	365	13
Apparel Stores	84,705	33,468	1,531	55,326	605	40
Furniture Stores	122,767	22,096	1,202	102,136	216	18
Eating and Drinking Places	263,911	81,127	11,840	22,240	3,639	31
Other Retail Stores	241,478	25,185	4,196	57,413	439	10
Lodging Places	(76,000)	14,529	2,05.	37,081	392	19
Amusement	(51,000)	6,978	1,691	29,920	232	14
TOTALS/AVERAGES		533,199	92,833		9,538	

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NA = Not available.

[1]Data in this column come from several sources. Sales figures for department stores, food stores, furniture stores, and eating and drinking places come from Sales and Marketing Management, July 23, 1984, page C-210 and represent 1983 sales. Data for other categories not in parentheses come from U.S. Bureau of the Census, Census of Retail Trade, 1982: Wisconsin, Washington, D.C., 1984, pages 19-20 and represent 1982 sales. Figures in parentheses are approximations for illustrative purposes generated from Dane County employment figures and national sales/employment ratios. See footnotes 3 and 4 below.

[2]From Table 6-1.

[3]From U.S. Bureau of the Census, County Business Patterns, 1982: Wisconsin, Washington, D.C., 1984, pages 34-39.

[4]Sales/employment ratios for construction, wholesalers, personal and business services, lodging, and amusements calculated from data in U.S. Bureau of the Census, Statistical Abstract of the United States: 1984 (104th edition), Washington, D.C., 1983. Ratios represent national sales figures divided by national employment figures under the assumption that national ratios apply to Dane County. Only 1977 ratios were available for construction, amusements, and services. Wholesalers and lodging ratios are from 1982 data. The use of 1977 ratios will bias the estimates if there have been major productivity improvements in these industries. The sales/employment ratio for transportation, communication, and utilities was obtained from a 1984 Wisconsin Electric Power Company rate case which found that every dollar of utility revenue results in .000004802 employees.

[5]The estimate of 670 jobs in finance, insurance, and real estate attributable to the University was based on input from School of Business faculty and industry representatives using the dollar amounts in Chapters 2 through 4.

[6]Because of the fashion in which these percentages were derived, the percentages of both sales and employment attributable to the University are equivalent. That is, B/A = E/C since E = B/D and D = A/C.

[7]Construction expenditures do not include employee new home purchases, so the total is understated.

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PRIVATE SECTOR EMPLOYMENT ATTRIBUTABLE TO THE UNIVERSITY

The $533 million spent by the University community at local businesses obviously creates thousands of jobs in the private sector of the economy. Determining just how many is the intention of this section.

Jobs exist in any local economy because individuals and firms both inside and outside the community purchase goods and services. To produce these goods and services, local firms hire employees. However, the number of employees hired does not just depend on the degree to which individuals and firms demand goods and services. Other factors include wage rates, the costs of capital, and the type of technology or production process which the firm uses. For these reasons, it is generally not an easy task to estimate how many jobs are created by a given level of economic activity or a given expenditure amount.

In this study, we use a crude estimating procedure based on sales and employment levels for each type of industry. Although every industry has different wage rates, technologies, and capital costs, one simple way to incorporate all of these factors is to determine the ratio of local sales to local employment. Industries that are labor intensive with low wage rates will have small sales/employment ratios (e.g., restaurants). In these industries, a given amount of expenditure will result in a large number of jobs.

Industries that are capital-intensive with higher wage rates will have large sales/employment ratios (e.g., auto dealers, food stores). In these industries, a given amount of expenditure will result in fewer jobs.

Column D in Table 6-2 presents sales/employment ratios for the industries in this study. Dane County sales and employment data for 1982 was only available for some of the industries. For most of the others, we used ratios derived from national data. This is not a problem since in almost every case where both local and national ratios were available, they were virtually identical.

University-related local employment is arrived at by dividing the sales/employment ratio for each industry into the corresponding University-related expenditure level. Resulting estimates are presented in Column E of Table 6-2. The total estimate for private sector jobs created by university community expenditures is about 9,500. This estimate of University-related employment does not include employment resulting from indirect sales. Employment arising from multiplier effects will be discussed later in this chapter.

REVENUES AND EMPLOYMENT IN THE PUBLIC SECTOR ATTRIBUTABLE TO THE UNIVERSITY COMMUNITY

Local government received about $33.8 million in direct payments from the University community, as shown in Table 6-3. If property taxes paid by landlords out of rents from students and employees are considered, the total is probably closer to $47 million.

These expenditures to local government create municipal and county employment. However, unlike the private sector, it is not as clear how taxes and other revenues translate into jobs, since not all county revenues are generated internally.

TABLE 6-3

Expenditures to Local Government[1]

Source	Amount
University (as an institution)	$ 1,299,000
Construction	6,000
Employees[2]	21,708,000
Students[2]	8,935,000
Visitors	1,900,000
TOTAL	$33,848,000

[1]From Tables 2-3, 2-5, 3-4, 4-2, and 5-14.

[2]Excludes property taxes included in rents.

To generate a crude estimate of public sector jobs attributable to the University community, we consider population size instead of revenues. The University community, as explained in Appendix B, is estimated at 80,085. This figure represents 24% of Dane County's population of 332,600.[6] Continuing this logic, it is not unreasonable to assume that 24% of public sector employment can be considered as University-related.

Acceptance of this argument requires assuming a direct relationship between population size and the local government payroll for municipal and county services. If we consider as a simple illustration that more people in Dane County probably means more police officers, fire fighters, and garbage collectors, the assumption is not unwarranted.

In the January, 1984 issue of Employment Review published by Wisconsin's Department of Industry, Labor and Human Relations, local government employment is estimated at 12,600. This figure includes both municipal and county employment, but excludes state and federal employees. Taking 24% of this figure suggests that about 3,000 jobs in the public sector exist because of the University's presence.

It is not enough, however, simply to state our estimate. What is of greater importance is to justify that the University community provides suffi-

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[6]Some members of the University community reside outside of the county, so the actual size of the University community within the county is slightly smaller than the 80,085 figure. However, we still use the full community size because of the high number of out-of-county visitors hosted by local members of the University community. In Chapter 5 it was estimated that students and University employees have over 1 million visitors annually. These visitors, by virtue of their presence, also create a demand for municipal and county services, but our rough estimating approach does not take these visitors directly into consideration. Therefore, as a proxy for visitor-generated public sector employment, we use the full University community size rather than using only Dane County residents.

cient revenue to local government to support these jobs without draining the public till.

In the 1971 study which paralleled this one, a considerable effort was made to answer this question. The conclusion was that the University's cost to local government was $266,000 once the contributions of the University community to local government and costs to government of serving the University community were considered. In view of both the potential for error and the total 1971 University economic impact figure of $450 million, this amount is negligible.

There is every reason to believe that the arguments used to arrive at this finding in 1971 are still appropriate for the present. Several points deserve mention here:

- As noted earlier, the University community gives $33.8 million in direct payments to local government. Including property taxes paid by landlords out of rents, the total is probably closer to $47 million.
- Students have few children but still contribute to local government. Thus, local government's education costs are less than students' contributions.
- Property values for rental units near the University are considerably higher than would be the case if the University didn't exist. Many units would not exist at all if there were no University. Thus, the University's presence enhances local government's property tax revenues.
- Because of the money spent by the University community in local businesses, property values for these businesses are higher under the assumption that property values are a reflection of a business' ability to generate sales and profits. Thus, commercial property tax revenues to local government are enhanced by the presence of the University.

- State government provides tax aids to local government based on such factors as individual income taxes, utility taxes, auto registration fees, and liquor taxes. All of these are enhanced by the presence of the University community.

To conclude this discussion, we maintain that a large portion of local government's budget is contributed by the University community, and that the 3,000 public sector jobs attributable to the University community are, in fact, supported fiscally by them.

EXPENDITURES TO LOCAL HOUSEHOLDS AND CHARITIES

Each segment of the University community spends money which goes to local households and charities. The amounts are shown in Table 6-4. By far the largest component stems from rents which were paid to local landlords (individuals rather than real estate businesses). A second sizable amount comes from private vehicle purchases, such as those made through classified advertising. Charities represent about $4.5 million of the $61.5 million spent in this category.

Expenditures to households and charities create employment in a fashion somewhat parallel to that of the public and private sectors. For example, when rents are paid to landlords, landlords will use the income to hire construction firms for remodeling, or heating and air conditioning firms for maintenance. And, while most of the money paid to charities goes to various causes, a small percentage remains to pay salaries to administrators or clergy. So, while the actual number of jobs created is unclear, it is indeed possible that over a

hundred jobs in the local economy result from University community expenditures to local households and charities.[7]

TABLE 6-4

Expenditures to Local Households and Charities[1]

Source	Households	Charities	Total
University (as an institution)	$ 161,000	--	$ 161,000
Construction	2,841,000	--	2,469,000
Employees	22,773,000	6,332,000	29,105,000
Students	25,649,000	3,213,000	28,862,000
Visitors	500,000	--	500,000
TOTALS	$51,924,000	$9,545,000	$61,469,000

[1]From Tables 2-3, 2-5, 3-4, 4-2, and 5-14.

HEALTH CARE EMPLOYMENT IN DANE COUNTY ATTRIBUTABLE TO THE UNIVERSITY COMMUNITY AND THE CONTRIBUTION OF UNIVERSITY HOSPITAL AND CLINICS TO THE LOCAL ECONOMY

In order to get a complete picture of University-related employment, it is necessary to look at employment in the health care sector. In 1982 there were 10,599 individuals employed in health services in Dane County.[8] This figure includes not only hospital personnel, but also doctors, dentists, chiropractors, their associates and assistants, laboratory personnel, and nursing home staffs. Most, if not all, members of the University community use the services

[7]If we conservatively assume that every $500,000 spent in this category results in one job, then about 120 such jobs can be attributed to the University community. This $500,000 estimate is more than twice as high as the highest private sector sales/employment ratio in Table 6-2.

[8]U.S. Bureau of the Census, County Business Patterns, 1982: Wisconsin, Washington, D.C., 1984, pages 34-39.

of these individuals and some of these jobs no doubt owe their existence to the presence of the University. In this section, we attempt to estimate how many health care jobs are University-related.

Unlike the public and private sectors, dollar contributions to the health care sector of the economy from the University community are largely indirect. Student health care needs are met primarily by the University Health Service, so out-of-pocket health care costs for students are small. Also, some students may still continue to see family physicians and dentists in their hometown.

Employee health care needs are primarily met by the State of Wisconsin, with a portion paid for by the employee. While out-of-pocket costs are still likely to be small relative to total costs, the out-of-pocket portion is not negligible. Dental fees alone for employee households without dental insurance could easily amount to over $1 million a year.[9]

Since almost all health fees are paid by third parties, using dollar amounts to estimate employment is not feasible. A further complication arises because the University itself is in the health care business, so some health care positions are held by University employees. In Table 6-5 we attempt to estimate University-related health care employment in Dane County using the number of employees and students covered by health insurance, and adjust for the fact that some of the health care services used are provided by the University itself. The University community is estimated to use health care services accounting for 530 jobs in Dane County.

Several points are deserving of elaboration. Using county demographic data, we find that for every 31 people in Dane County there is one person

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[9]No attempt was made in this study to isolate out-of-pocket medical costs. These are included under the category of personal and business services.

TABLE 6-5

Estimation of Non-University Health Care Sector Employment Attributable to University Health Insurance Coverage

Demographic Background	
Total Dane County health care employment[1]	10,599
Dane County population	332,600
Local ratio of Dane County residents per health care employee	31.4:1
Total U.S. health care employment[2]	5,553,000
U.S. population	231,534,000
National ratio of U.S. residents per health care employee	41.7:1
Approximate number of University employees[3] employed in health care	2,900
Percentage of Dane County health care employees employed by the University (2,900 divided by 10,599)	27.4%
University Health Insurance Coverage[4]	
Total number of employees with individual health insurance coverage	7,082
Total number of employees with family health insurance coverage	8,985
Average family size[5]	2.6
Total number of individuals in the University community covered by University health insurance (7,082 plus 2.6 times 8,985)	30,443
Estimation of Employment	
Number of health care employees needed to meet medical needs of University community members covered by health insurance[6] (30,443 divided by 41.7)	730
Less percentage of health care employees in Dane County employed by the University[7] (.274 times 730)	-200
Equals estimated health care employment attributable to University health insurance coverage[8]	530

[1]U.S. Bureau of the Census, County Business Patterns, 1982: Wisconsin: Washington, D.C., 1984, pages 34-39.

[2]Obtained from the American Hospital Association library in Chicago.

[3]Estimate provided by University Hospital and Clinics. The exact number is not possible to determine for our purposes, because some medical school faculty devote a portion of their time to teaching and research and a portion to medical care.

[4]Obtained from Payroll and Staff Benefits office. Data represents coverage in November, 1983 and includes teaching assistants, project assistants, and research assistants.

[5]Weighted average based on data in Appendix B.

[6]We use the more conservative national ratio here since some of Dane County's health care employment services are "exported" to serve the needs of the rest of the state and would not be necessary otherwise.

[7]Obviously, some University employees use the health services of University Hospital and Clinics, which for purposes of this study is not a part of the local economy. These services should not be included in our employment estimate. However, since it is not practical to determine what percentage of health insurance money is involved, we use as a proxy the percentage of total Dane County health care employment accounted for by University Hospital and Clinics.

[8]This figure excludes health care employment resulting from out-of-pocket expenditures by members of the University community.

employed in health care. The national average, however, is one health care employee per 42 citizens. This suggests that Dane County, and especially Madison, may be "overdoctored." This may or may not be true. The "extra" health care employment may also simply be an indication of services provided to individuals who live outside the county. Rather clearly, the total health care industry represents an important "export" industry, drawing in patients from surrounding counties, the Midwest, and in some instances, the nation.

To calculate the number of health care employees attributable to the University community, we used the national ratio (41 people per health care employee) to reflect local demand and to be conservative.

University Hospital and Clinics constitutes 27% of local health care employment. At <u>least</u> this percentage of out-of-county patients can be attributed to the University, if not considerably more. These patients and their insurance companies do not contribute all of their local expenditures to the local economy directly, because most of it goes to the University to pay medical bills. However, a sizable portion of the expenditures stay in the county to pay hospital salaries and purchase equipment, services, and supplies. These salaries and purchases are already reflected in the figures presented in Chapters 2 and 3, but it is important to realize that they would be smaller if not for the services provided by University Hospital and Clinics to the entire state. Appendix G presents a detailed discussion of these services.

TOTAL EXPENDITURES ATTRIBUTABLE TO THE UNIVERSITY

Summing all direct expenditures to businesses, local government, and households yields a figure of $628,516,000, which represents the collective contribution of the University community to the economy of Dane County. In the sections which follow, we describe the total impact of the University, including multiplier effects, and estimate total employment attributable to the University.

INDIRECT OR "MULTIPLIER" IMPACTS OF UW-MADISON

It is well recognized in economic literature that revenues generated within an economy recirculate within that economy to create additional revenues. The grocery store that sells a box of cereal may then repurchase another box of cereal from a local wholesaler. Additionally, that grocery store purchases electricity from the local utility, labor from local households, accounting services from local CPA firms, etc.

Not all expenditures, however, stay in the local community. State and federal taxes, for example, represent a leakage of funds from the local economy. Purchases from out-of-community wholesalers or manufacturers represent another leakage.

Although economic multipliers may be derived in several different ways, one of the most effective approaches is input-output (I-O) analysis. Using I-O analysis, one can derive output (sales), income, or employment multipliers. A major advantage of I-O analysis is that it allows an analyst to disaggregate changes into individual economic sectors of a local economy. Both the effect of a change in a specific sector on all of the other sectors, and the effect of change in the output of all sectors on a specific sector can be examined.

Sector multipliers differ according to the proportion of their expenditures that are made locally. A local repair service firm, for example, probably spends a high proportion of its revenues on the labor of its repair staff (local households). It would have a fairly high multiplier. On the other hand, a food wholesaler in the community most likely spends a very high proportion of its revenues purchasing manufactured products from outside the community. Its leakage factor would be high and its local multiplier low.

The clearest disadvantage of I-O analysis is its cost. The cost of constructing an input-output table for the Dane County economy using the expendi-

ture survey method would probably be in the neighborhood of $50,000. The process would take months or years to complete.

Because of the desire to better understand in what specific ways the University community affects the non-University community economically, this research makes use of input-output multipliers. Lacking the time and funding to build an I-O model for Dane County, sectoral multipliers for Wisconsin's Door County were used, since Door County, like Dane County, is largely a service economy. These sales multipliers are without doubt smaller than those in Dane County simply because Dane has a larger, more sophisticated economy that provides more services and goods locally than does Door County. Relative to other urban economies, where manufacturing is more prominent, Madison has a very high percentage of employment in the service sector of its economy, particularly in government and education. In these sectors, labor costs constitute by far the largest costs to employing institutions. Thus, an especially large amount of "respent" money goes to local households in the form of salaries, and salaries are especially likely to stay in a local economy. This results in smaller leakages and a higher multiplier.

The application of Door County multipliers in this study must then be interpreted as a conservative approach. This is consistent with the approach used throughout the study. In this way, the study's basic credibility is not impaired and no attempts on the part of the authors to exaggerate the results should be inferred from the methodology employed.

Table 6-6 applies the Door County multipliers to University-associated expenditures by industry. In total, we estimate that the Dane County economy derives roughly $1.4 billion as a result of the University's presence based on an overall multiplier of 2.24.

As pointed out in a previous paragraph, because Dane County's economy is more sophisticated than Door County's, the actual multiplier for Dane is conceivably higher than 2.24. Nonetheless, consistent with our desire to be conservative, and because of the imprecision brought into play by the use of Door County multipliers, we offer a range of values within which the total impact probably falls. Very roughly speaking, we estimate that the probable impact of the University on Dane County is somewhere between $1.25 billion and $1.50 billion based on alternative multipliers.

MULTIPLIER IMPACTS ON DANE COUNTY SALES AND EMPLOYMENT

At a more specific level, it is valuable to look at the additional sales and employment resulting from multiplier effects. Table 6-7 illustrates total sales which accrue from both the direct sales discussed earlier and the indirect sales which occur after the University community has made its expenditures and they have been respent. Not surprisingly, the largest indirect impact is on local households, which receive approximately $357 million when money spent by the University community is subsequently paid out to individual households in the form of wages and salaries. In total then, households receive over $418 million as a result of the University's presence.

Other major recipients include local transportation and utilities businesses, totaling $106 million; finance, insurance, and real estate enterprises, $118 million; food stores, $107 million; auto sales and service businesses, $120 million; and eating and drinking places, $96 million.[10]

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[10]In view of the lack of accuracy resulting from the use of Door County multipliers, it is probably just as accurate simply to say that the total impact of the University on these industries is in the vicinity of $100 million.

To consider these figures in perspective, we once again look at the amounts and percentages of sales and employment explained by the University's presence, but this time both direct and indirect effects are included. Table 6-8, which parallels Table 6-2, shows that almost 15,000 private sector jobs in Dane County exist because of the direct and indirect impact of the University. Based on the $1.8 billion total retail sales figure for 1983 (from Sales and Marketing Management) mentioned earlier, about 29% of retail sales in Dane County can be attributed to the University.[11] More specifically, almost half of sales and employment in clothing stores, a third of sales and employment in restaurants, bars, and food stores, and over a quarter of sales and employment related to building materials and farm equipment, personal and business services, department stores, and auto sales and service is generated by the University community.

[11] Sales and Marketing Management (July 23, 1984), p. C-210.

TABLE 6-6

The Total Impact of the University on the Local Economy Using Multipliers

Industry	Direct Impact of the University[1] (in 000's)	Income Multiplier[2]	Direct and Indirect Impact[3] (in 000's)
Agriculture	128	3.02	400
Construction	21,868	2.87	62,700
Manufacturing	698	2.01	1,400
Transportation, Communication, Utilities	45,952	2.33	107,000
Wholesalers	14,749	1.86	27,400
Building Materials, Farm Equipment	2,212	1.54	3,400
Personal and Business Services	20,310	2.81	57,100
Finance, Insurance, Real Estate	89,040	2.95	262,700
Department Stores	39,503	1.73	68,300
Food Stores	53,789	1.47	79,100
Auto Sales and Service	61,567	1.89	116,400
Apparel Stores	33,468	1.82	60,900
Furniture Stores	22,096	1.75	38,700
Eating and Drinking Places	81,127	2.27	184,200
Other Retail Stores	25,185	1.63	41,100
Lodging Places	14,529	2.37	34,400
Amusements	6,978	2.40	16,700
TOTAL TO LOCAL BUSINESSES	533,199	2.18	1,145,200
Government	33,848	2.83	95,800
Households	51,924	2.47	128,200
Charities	9,545	2.47	23,600
TOTAL TO LOCAL ECONOMY	628,516	2.24	1,409,500

[1]From Tables 6-1, 6-3, and 6-4.

[2]Multipliers for Door County taken from William A. Strang, Recreation and the Local Economy (Madison: University of Wisconsin Sea Grant Program, October 1970), pages 31-33.

[3]Figures rounded to the nearest $100,000.

TABLE 6-7

The Total Impact of the University on Each Local Industry Using Multipliers

Industry	Direct Impact of the University[1] (in 000's)	Approximate Indirect Impact on Each Industry Resulting from Direct Impacts (in 000's)	Approximate Total Impact of the University on Each Industry[2] (in 000's)
Agriculture	128	4,372	4,500
Construction	21,868	25,232	47,100
Manufacturing	698	9,402	10,100
Transportation, Communication, Utilities	45,952	59,548	105,500
Wholesalers	14,749	49,051	63,800
Building Materials, Farm Equipment	2,212	17,388	19,600
Personal and Business Services	20,310	18,090	38,400
Finance, Insurance, Real Estate	89,040	28,760	117,800
Department Stores	39,503	21,697	61,200
Food Stores	53,789	53,011	106,800
Auto Sales and Service	61,567	58,133	119,700
Apparel Stores	33,468	6,732	40,200
Furniture Stores	22,096	4,204	26,300
Eating and Drinking Places	81,127	14,673	95,800
Other Retail Stores	25,185	26,015	51,200
Lodging Places	14,529	2,171	16,700
Amusements	6,978	1,622	8,600
TOTAL TO LOCAL BUSINESSES	533,199	400,101	933,300
Government	33,848	24,152	58,000
Households and Charities (combined)	61,469	356,731	418,200
TOTAL TO LOCAL ECONOMY	628,516	780,984	1,409,500

[1]From Tables 6-1, 6-3, and 6-4.

[2]Derived using input-output table in Appendix F. Figures rounded to the nearest $100,000.

TABLE 6-8
The Total Impact of the University on Dane County Private Sector Sales and Employment Using Multipliers[1]

Industry	A Sales in Dane County (in 000's)	B Approximate Total Impact of the University on Each Industry[2] (in 000's)	C Private Sector Employment in Dane County	D Sales Per Employee[3]	E Approximate Employment Attributable to the Total Impact of the University[4] (B/D)	F Approximate Percentage of Sales and Employment Attributable to the Total Impact of the University (B/A) or (E/C)
Agriculture	NA	4,500	472	(86,500)	(52)	(8)
Construction	(309,000)	47,100	5,886	52,578	1,116	15
Manufacturing	NA	10,100	18,431	(86,500)	(117)	(1)
Transportation, Communication, Utilities	(1,288,000)	105,500	6,185	208,247	507	8
Wholesalers	(1,494,000)	63,800	6,893	216,742	294	4
Building Materials, Farm Equipment	64,732	19,600	865	74,835	262	30
Personal and Business Services	(152,000)	38,400	7,475	20,360	1,886	25
Finance, Insurance, Real Estate	NA	117,800	13,866	--	885	6
Department Stores	213,654	61,200	3,741	57,111	1,072	29
Food Stores	333,104	106,800	3,436	96,945	1,102	32
Auto Sales and Service	481,674	119,700	2,858	168,535	710	25
Apparel Stores	84,705	40,200	1,531	55,326	727	47
Furniture Stores	122,767	26,300	1,202	102,136	257	21
Eating and Drinking Places	263,911	95,800	11,840	22,290	4,298	36
Other Retail Stores	241,478	51,200	4,206	57,413	892	21
Lodging Places	(76,000)	16,700	2,055	37,081	450	22
Amusements	(51,000)	8,600	1,691	29,920	287	17
TOTALS		933,300	92,833		14,914	

NA = Not available.

[1]See footnotes to Table 6-2 for origins of figures in columns A, C, and D.

[2]From Table 6-7.

[3]Sales/employment ratios were not available for agriculture and manufacturing so we use the average derived from all industries.

[4]Employment for finance, insurance, and real estate based on the procedures discussed in footnote 5, Table 6-2.

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TOTAL DANE COUNTY EMPLOYMENT AND THE IMPACT OF THE UNIVERSITY

Table 6-9 summarizes the employment figures estimated in previous sections of this chapter. In total, including University employment, we estimate that about 40,000 jobs exist in Dane County because of the University's presence. This represents 21.5% of Dane County's employment of approximately 186,100.[12]

Some cautions are in order in interpreting these employment findings. First and foremost, we wish to remind the reader that our estimating procedures are crude at best and should by no means be considered as definitive. Secondly, some non-University jobs are taken by students and spouses of University employees so that number of University-related jobs held by individuals outside of the University community is not necessarily equal to the number of jobs created by the University community. Third, a small percentage of University employees are employed outside the county. Fourth, our figures ignore some jobs that conceivably could exist because of the University. These include:

- State and federal government jobs which owe their existence to the University community. The U.S. Postal Service is one example.
- Health care jobs created from out-of-pocket expenditures by members of the University community.
- Jobs created by University community expenditures to local households and charities.

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[12]Employment figure from Employment Review, January 1984, published by the Wisconsin Department of Industry, Labor and Human Relations.

TABLE 6-9
Total University-Related Employment in
Dane County

Non-University Employment Attributable to the University	
Private sector (resulting from direct expenditures to local businesses)[1]	9,538
Private sector (resulting from indirect spending)[2]	5,376
Public sector[3]	3,000
Health care sector[4]	530
	18,444
University Employment[5]	
Employees	12,876
Students	8,801
	21,677
TOTAL	40,121

[1]From Table 6-2.

[2]From Table 6-8.

[3]See the section of this chapter entitled "Revenues and Employment in the Public Sector Attributable to the University Community."

[4]From Table 6-5.

[5]From Payroll and Staff Benefits Office. A small percentage of UW-Madison employees are actually employed outside of the county. However, we choose not to adjust the figures because of other compensating factors discussed in the text.

- Jobs created by decisions of business firms to locate near the University even though the firms may not do business directly with either the University or members of the University community.[13]

  UW Extension and UW Center System jobs.

For these reasons, we believe that our estimate of 40,000 may actually understate the number of jobs in Dane County that are University-related.

THE IMPACT OF THE UNIVERSITY ON THE STATE

As pointed out earlier in this report, one of the criticisms made of economic impact studies is that whenever money is brought into one economy, less money is spent in another. This shift in resources is most obvious with students and visitors. Students from Oshkosh or visitors from Oconomowoc who spend money in Dane County because of the University obviously do not spend this money in their hometown. These resources merely shift within the state. However, there are a sizable number of students and visitors who come from outside of Wisconsin. Based on the findings described in Chapters 4 and 5, they bring an estimated $84 million into Wisconsin. With multiplier effects, the total impact is about $188 million.

Not included in this figure is the money spent by patients at University Hospital and Clinics who come from outside of the state.[14] Virtually none of this money enters the local economy directly since it is paid to the University. However, it does enter the local economy indirectly via salaries paid to

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[13]For a discussion of this point see the section of this chapter entitled "The University as an Industrial Location Factor."

[14]University Hospital and Clinics estimates that 15% of its patients are from outside of Wisconsin.

University employees and purchases made from local vendors of equipment, services, and supplies. We made no attempt to assign a dollar figure to this effect because of the difficulty of determining it.

The impact of out-of-state employees is even more difficult to ascertain, since the effect exists only in the abstract. If the UW-Madison did not exist, many University employees would choose to live in other states rather than reside in Wisconsin.[15] Under this scenario, Wisconsin would obviously not receive any economic benefit from their expenditures.

The same logic applies to students. Many Wisconsin students would leave the state to attend a major Big Ten level university with national stature if one did not exist in the state. Their expenditures would thus occur outside the state (e.g., in Illinois or Minnesota) and the economy of Wisconsin would lose the effect of those expenditures. In effect, our citizens would be "importing educational services" from outside the state. Thus, UW-Madison has what is termed an "import-substitution" effect of a sizable amount.

Some percentage of employees and students live outside of Dane County in surrounding counties. In this study, only expenditures that were made locally were counted. Thus, all other expenditures made by these individuals and households accrue to the state's economy outside Dane County.

Yet another point to be made regarding the University's benefit to the state arises out of this chapter's earlier discussion of multiplier effects. As demonstrated in that section, not all of the money spent in Dane County stays in Dane County due to leakages. It is highly likely though that a substantial portion of these leakages stay within the state. For example, University-related expenditures

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[15] See footnote 1, Chapter 3.

to food stores are in turn paid to wholesalers by these food stores in order to purchase food. While not all of these wholesalers may be in Dane County, most of them are in the state. A second more concrete example is the University itself. While 19% of University purchases excluding health insurance are made in Dane County, about half are made within the state.[16] Very roughly, this represents about $43 million that is spent in Wisconsin (excluding Dane County) because of the University's presence. When all industries and the entire University community are considered, the total amount of benefit to the non-Dane County portion of the state due to such leakages is undoubtedly in the hundreds of millions of dollars.

Still another economic benefit to the state is deserving of mention. On average, the UW-Madison receives about $100 million annually in federal funding and millions more from private foundations. Apart from the obvious sales and jobs that result from this money, a not so obvious benefit is the improved quality of life which Wisconsin citizens enjoy as a result of the fruits of research.[17]

NON-QUANTIFIABLE ECONOMIC IMPACTS OF THE UNIVERSITY

This study has attempted to prove its points whenever possible with numbers. Our estimates have been variously used to describe dollars, employees, or visitors resulting from the University's presence. If enough time, resources, and expertise had been available to the authors, additional numerical estimates of the University's impact could have been generated. The points which follow represent some of those aspects of the University's economic impact that could not be fully quantified but are nonetheless salient.

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[16] See Chapter 2.

[17] UW-Madison University Committee, "The Economic Benefits of the UW-Madison for the State," Working Group Report (Madison: November, 1983).

The University as an Industrial Location Factor

When an existing business decides to relocate or a new business chooses a location site, the individuals responsible for the decision consider many factors. These include (but are by no means limited to) such things as climate, energy costs, business taxes, wage rates, availability and costs of raw materials, access to major highways, or recreational opportunities. The question to be asked with respect to this study is: "To what extent is the presence of the University a factor in decisions by new and existing businesses to locate in Dane County?"

This is an important question, and not merely because of this study's attempt to document the economic role of the University in the community. If the University is, in fact, a major location factor, this knowledge would imply that the state and county need to more fully utilize it as an attraction for business.

Those who doubt this potential role for the University need only look at Massachusetts and California, where the microelectronics industry developed as a direct result of expertise flowing from MIT and Stanford. The UW-Madison's national reputation for expertise in molecular biology and agriculture is already beginning to attract firms which need state-of-the-art knowledge possessed by faculty.

However, amidst the glamour and money of high-tech, there is a possible tendency to overlook firms that choose to be near the University for other reasons. The stimulating intellectual and cultural climate in Dane County no doubt attracts young, educated entrepreneurs. Other firms may locate near a university for marketing reasons, either selling to the University itself or to its students and employees. Still others use its technical or testing services, or hire talented graduates.

In an effort to determine how the University interacts with and is viewed by new business, a separate study was undertaken by the UW-Madison Bureau of Business Research.[18] Preliminary findings based on 319 new businesses in Dane County suggest that 54% of these new businesses consider the University as "important," "very important," or "critical" in their location decision.

Several variables were found to be related to whether the University was considered important. These include the current number of personal contacts with faculty and administrators, proximity to the University, number of UW-Madison students and graduates employed, and percentage of budget devoted to research and development.

Returning to the economic impact issue armed with this new perspective, it is readily apparent that new business means new jobs for Dane County. To the extent that the University plays a role in attracting new business, it creates work for residents of the community. It is clear that this role is not a small one.

The University and Retail Trade

Earlier portions of this chapter documented the University's dollar impact on retail trade in Madison. What these figures do not express are the impacts of the University community's consumer tastes on the availability of consumer goods and services.

To illustrate what is meant, we ask the reader to take a mental stroll down State Street starting at State Street Mall. As one begins, colorful food stands offer an incredible variety of the international equivalent of fast food. Book-

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[18] This study, tentatively entitled Educational Institutions and New Business Development: The Case of Madison, Wisconsin, will be released in the summer. The study examines the role of both the UW-Madison and Madison Area Technical College.

stores, used and new, stock thousands of titles that appeal to any and every reader. Record stores are so numerous that virtually any album issued in the last 30 years can be found. Gourmet coffees, teas, and kitchen esoterica beckon through the storefronts of several shops. Handcrafted leather goods, obscure but captivating board games, exotic ice cream flavors, jazzy clothes, and almost every scent of lotion, soap, powder, cream, oil, or shampoo ever imagined by the discriminating nose await shoppers.

Much of State Street is primarily a University-based retail center. Its variety of offerings reflects the remarkable diversity of the University community. The UW-Madison has students from virtually every state and over one hundred foreign countries. Faculty as well come from all over the nation and the world. These individuals have unique and different consumer tastes that create an inviting market for retailers.

The local economy benefits from this heterogenous University market in two ways. First, local consumers have available a greater choice of goods and services, since State Street is obviously not merely for the University's exclusive use. And second, more dollars stay in the county because shoppers do not need to go to such cities as Milwaukee, Chicago, or Minneapolis to find the types of consumer goods and services they seek.

The University's Services to the Non-University Community

In 1982 and again in 1984, the University of Wisconsin System published an inventory of University services available to business and industry.[19] This compilation included all the institutions of the UW System. Under the heading of UW-Madison are a list of 172 centers that offer services.

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[19]University Resources for Business Industry, University of Wisconsin System, 1984, available by calling (800) 362-3020.

The scope of these services is so vast that it is impossible to do them justice here. A few randomly chosen examples will have to suffice as cases in point:

- The Department of Chemistry offers technical expertise in instrument design and fabrication for chemical firms.
- The State Laboratory of Hygiene which is a part of the Center for Health Sciences conducts numerous tests of drugs, identifies suspected bacteriological agents, and conducts clinical field trials.
- The Department of Pathobiological Sciences tests biological and chemical agents for the control and prevention of animal diseases.
- The Department of Entomology offers advice on insects and insect-caused problems, insecticides, pesticides, and insect control.
- The Molecular Biology Laboratory provides technical expertise in the application of recombinant DNA techniques to problems in agriculture, medicine, and industrial processes.

It is one of the University's missions, and the core of the Wisconsin Idea to provide these services. What is sometimes overlooked are the economic benefits to the county and state.

Many of the services provided by the University are so highly technical that the requisite expertise and/or equipment may simply not exist outside of an academic setting. Also, University services are probably at the cutting edge of new discoveries, since the UW-Madison as a major research university is presumably abreast of new research developments.

It is thus not a specious argument to claim that these services benefit the local economy. The success of many businesses fundamentally depends on a knowledge base and the access to new knowledge.

The University also provides many services which benefit areas of Dane County's non-University community other than business and industry. The role of University Hospital and Clinics has already been mentioned and is described in Appendix G. The Department of Police and Security provides protection which inevitably spills out of the University community into the local community. The Arboretum, Picnic Point, and other sites owned by the University provide recreational opportunities to residents of Dane County. Memorial Union offers a regularly scheduled array of musical and dramatic entertainment which is open to the public. The Elvehjem Museum's collection attracts many county and state residents. The twenty-two libraries at the UW-Madison can be visited and used by anyone in the state.

These services would not exist if there were no UW-Madison. To obtain them (if there were no University), county residents would have to go elsewhere, or local government would have to provide them. Either way, the economic drain on the county is evident. So these services provided by the University are a major economic benefit to the county.

The University and Availability of Human Resources

Amidst all the discussion of dollars in this report, it has virtually escaped mention that one of the University's foremost missions is to prepare students for life and a career in tomorrow's society. From all indications, this preparation is highly valuable to graduates personally, professionally, and economically.

Some UW-Madison graduates stay in Dane County as evidenced by the many alumni who hold key positions locally. These individuals actually benefit the local economy through their knowledge, skills, and creativity, resulting in greater productivity and a higher quality of local goods and services, from which all members of Dane County benefit.

Before graduation, most students take part-time jobs locally. The widespread availability of students who are willing to work for low wages benefits both local businesses and local consumers. Reduced labor costs means lower overhead for a business, and if these reduced operating costs translate into lower prices, all members of the local economy benefit.

CAVEATS

Throughout the process of describing our findings, we have made a concerted effort to caution the reader whenever we felt our estimates were biased or based on assumptions not supported entirely by data. Rather than repeating the individual points made in each chapter, this section explains several caveats that apply to the entire study.

Error Estimates

An obvious difficulty with a study of this type lies in attempting to estimate numerical errors. Estimates such as those presented throughout this report are often described in the context of a range or as an average "plus or minus" some probable deviation. We decided for two reasons, however, to present simple averages: first, averages are easier to understand than ranges; second, there was no meaningful basis in most cases for establishing a statistical range of error. There were certainly instances when more conservative assumptions would have lowered the estimates and more liberal ones would have increased them. So while the estimates can hardly be considered error-free, we are convinced they are realistic and probably conservative.

Vehicle Purchases

In total, we estimated that approximately $40 million worth of vehicles were purchased in Dane County by members of the University community during the

1983-84 academic year. However, this estimate is a combination of four assumptions with varying degrees of support:

- It is assumed that the total for student vehicle purchases made in 1969 adjusted for inflation represents current student vehicle purchases.
- It is assumed that total employee vehicle purchases can be extrapolated from three purchases.
- It is assumed that visitor purchases are not attributable to the University.
- It is assumed that the ratio of new-to-used vehicle purchases we estimated was correct and that we allocated the corresponding dollar amounts appropriately to businesses and households.

Correctly determining vehicle purchases attributable to the University would have been a study in itself. Our sample sizes, response rates, and time frame were adequate for other purposes, but not for capturing the infrequent purchase of a durable good during a month's time. Future studies should use a one-year time frame and separate dealer purchases from private party purchases.

Time Period of Data Collection

It was not always practical or even possible to obtain data for the time periods we desired. The net result is that although the findings in this report are supposed to represent the 1983-84 school year, some of the data were actually gathered from 1982-83 sources. Variations from year to year are not random, so this inconsistency can introduce bias into the estimates. Fortunately, we believe the overall effect is in a conservative direction, since in the majority of cases, 1982-83 data were smaller.

CONCLUSIONS AND RECOMMENDATIONS

The 1971 version of this study concluded by stating "The University is a more important component of the Dane County economy than we expected when we began the study." It was anticipated that fourteen years later this replication would hold no more surprises. However, findings in two major areas did surprise us after all.

Visitors to the University seem to represent a much more important source of income to the local economy than we initially expected. With 2 million out-of-county visitors annually spending an estimated $140 million, it would seem that a number of local businesses and jobs owe their existence to these visits. The Greater Madison Chamber of Commerce and Greater Madison Convention and Visitors Bureau should explore ways by which the local economy could benefit even further. At a minimum, a more in-depth study of spending patterns is called for, followed by marketing strategies specifically targeted at University visitors.

The second "surprise" is our increased recognition of the role played by University Hospital and Clinics in the local economy. In planning and conducting this study we made no effort to isolate University Hospital and Clinics' impact, but we now believe it deserves a study of its own. We strongly encourage the Center for Health Sciences at UW-Madison to commission a study to parallel this one. Of particular interest are the dollars brought in by out-of-county patients and their insurers, the extent of local purchases of equipment, supplies, and services, and the spending patterns of patient visitors.

In a related vein, we believe that recent changes in the allocation of University health insurance dollars warrants an examination of their effect on the structure of the local health care industry as a whole as well as the University's part in it.

Our other recommendations are the same as those for the 1971 study:

- Those individuals who are responsible for the economic development of Dane County should carefully consider the University's role, using the findings of this study as a starting point.
- The University itself should examine what could be done to increase the percentage of purchases made locally and in the state.
- This study should be repeated periodically as an ongoing barometer of the University's role in the local economy.

To conclude, our fondest wish is that the findings of this study facilitate the continued improvement of the relationship between the University of Wisconsin-Madison, the local community, and the state. It is almost a platitude to say that the three are interdependent, but in the midst of the controversies that arise from time to time the mutualities can be overlooked. One of our strategies in presenting the findings of this study has been to try to illustrate what Dane County might be like without the University. In doing so, we hope we have generated a renewed appreciation of the "bucks" that exist locally because of Bucky Badger.

APPENDIX A

Survey Instruments

Employee Survey:

Letter to employees
Questionnaire sent to employees
Follow-up postcard

Student Survey:

Letter to students
Questionnaire sent to students
Follow-up postcard

Football Fan Survey:

Letter to fans
Questionnaire handed out to fans at games

Parent Visit Surveys:

Letter to parents
Questionnaire sent to parents
Coding sheet used for calling undergraduates with Dane County permanent addresses
Instructions for calls
Result codes for calls
Letter to foreign students
Questionnaire sent to foreign students
Letter to graduate students with Dane County permanent addresses
Questionnaire sent to graduate students

Department Survey:

Letter to academic deans and directors
Letter to department heads
Letter to department secretaries
Questionnaire sent to departments
Follow-up letter sent to department heads

Extension Visitor Survey:

Letter to program coordinator
Guidelines for program coordinators
Letter to program participants
Questionnaire given to program participants

Business Visitor Survey:

Letter to participants in Graduate School of Banking programs
Questionnaire given to program participants

University of Wisconsin Madison

Graduate School of Business
1155 Observatory Drive
Madison, Wisconsin 53706

Bureau of Business Research

November 25, 1983

Dear Faculty Member/University Employee:

The Bureau of Business Research has been asked by the Chancellor's Office to conduct a research study assessing the impact of the UW-Madison on the local economy. An important part of this study involves determining the amount of expenditures by University faculty and employees to various types of Dane County businesses and organizations.

To collect this information, the enclosed questionnaire is being sent to a randomly selected sample of University faculty and employees. Your participation would be greatly appreciated. The information you supply will be used in state budget planning and will also aid in stimulating cooperation between campus and community.

We are also sending questionnaires to full-time students to determine student expenditures. To avoid duplication, please discard the questionnaire if you are both a UW-Madison employee and a full-time student.

The questionnaire asks you to recall your expenditures within Dane County during a designated month. It should take only ten minutes to complete.

After completing the questionnaire, please return it to the Bureau of Business Research in the enclosed business reply envelope. All the information which you provide will be held in confidence and only aggregate data will be published.

Thank you for yor valued assistance.

Sincerely,

Bill Strang

William A. Strang
Director, Bureau of Business Research and
Associate Dean for External Relations

WAS:jgk

Enclosures

FACULTY/EMPLOYEE QUESTIONNAIRE

INSTRUCTIONS: Please provide answers to the following questions to the best of your ability. You will not be identified in any way so confidentiality is assured. If you are both a UW-Madison employee and a full-time student, please discard the questionnaire.

Listed below are various types of businesses and organizations in Dane County. Please read through the list once, then go back and estimate the amount of expenditures you (or, if married, you and your family) made to each during the month circled below. Include both cash and credit expenditures. If you had no expenditures in a given category, put a 0 in that category. If you are not sure of the exact amount, please use your best estimate.

August 1983 September 1983 October 1983 November 1983

Type of Dane County Business or Organization	Estimated Monthly Expenditure in Dane County
1. Telephone company	$_____
2. Madison Gas & Electric	$_____
3. Department, variety, discount, catalog stores	$_____
4. Apparel stores (clothing, shoes, accessories)	$_____
5. Automobile, truck, or motorcycle dealers (vehicle purchases only)	$_____
6. Service stations, garages, auto dealers (for repairs, parts, or gasoline, etc.)	$_____
7. Furniture and/or appliance stores	$_____
8. Eating and drinking places (restaurants, bars, etc.)	$_____
9. Food stores	$_____
10. Other retail stores (florists, gift stores, record shops, liquor stores, drug stores, hardware stores)	$_____
11. Guest lodging places (hotels, motels, tourist homes)	$_____
12. Amusement places (theatres, private golf clubs, amusement parks)	$_____
13. Local households (payments made directly to individuals; for example, babysitters, cleaning, private parking)	$_____
14. Insurance companies (life, health, disability, automobile, accident, property, etc.)	
- Payments made to companies in Dane County	$_____
- Payments made to companies outside the county but where the salesman is a local resident	$_____

15. Financial institutions (banks, finance companies, savings and loans, credit unions, stock brokers, etc.)

    a) Mortgage payments:
    - Amount paid in interest..... $_____
    - Amount paid on principal..... $_____

    b) Service charges and interest (other than mortgage interest)..... $_____

16. Housing rental (for apartments, houses, etc., do not include amounts paid for University of Wisconsin owned housing).

    - Rent paid to businesses..... $_____
    - Rent paid to individuals..... $_____
    - Rent paid to non-profit organizations (fraternities, sororities, co-operatives, etc. If you pay a semester rate, please estimate the portion paid monthly for rent.)..... $_____

17. Transportation companies located in Dane County (city or University buses, railroad or airline companies--only if ticket was purchased locally--other bus companies, taxis)..... $_____

18. City or county government (excluding property tax but including public parking fees, traffic tickets, public golf courses, public park fees, etc.)..... $_____

19. Churches and local charities..... $_____

20. Personal or business services (lawyers, doctors, barbers, beauty shops, optometrists, laundries, dry cleaners, etc.)..... $_____

21. Repair service or construction companies (plumbers, electricians, carpenters, etc.)..... $_____

22. What were your average balances in Dane County institutions in the following categories during the month circled at the beginning of this questionnaire?

    Checking account..... $_____
    Savings account (certificates of deposit, etc.)..... $_____

23. What is your position at the UW-Madison?

    Full Professor ___
    Associate Professor ___
    Assistant Professor ___
    Academic Staff ___
    Civil Service Staff ___
    Other (please indicate) _____

24. Would you still be living in Dane County in 1983-1984 if you were not employed by the University of Wisconsin-Madison? Yes ___ No ___

25. Including yourself, how many family members live in your household? _____

25a. How many of your children, if any, attend public primary or secondary schools in Dane County? _____

26. How many other members of your household, if any, work for the University of Wisconsin-Madison? _____

27. How many friends or relatives from outside Dane County visited you during the month circled at the beginning of this questionnaire? (Do not include individuals visiting on university-related business.) _____

27a. What was the average daily expenditure of these visitors? (Include transportation, food, etc.) $_____

27b. What was the average length of stay (in days) of these visitors? _____

28. Do you own your home and/or other property in Dane County?

Yes _____ ↓ No _____ (END OF QUESTIONS)

29. What is your estimated 1983 property tax? $_____

30. Did you purchase your home in 1983?

Yes _____ ↓ No _____ (END OF QUESTIONS)

31. From whom did you buy your home?

an individual _____
a realtor/developer _____
a construction company _____
other _____

32. What was the approximate purchase price of your home? $_____

32a. About how much did you pay as realtor's fees? $_____

Thank you for your valued participation! A business reply envelope is provided for your convenience.

Dear Employee:

Last week a questionnaire seeking information on your monthly expenditures in Dane County was sent to you. Your name was chosen at random from the list of University faculty and employees.

If you have already completed and returned it to us, please accept our sincere thanks. If not, please do so today. Your participation will greatly increase the accuracy and usefulness of our study.

If you did not receive a questionnaire, or it was misplaced, please call Jean Knowles (262-1550) at the Bureau of Business Research and she will send you one today.

Sincerely,

William A. Strang, Director
Bureau of Business Research and
Associate Dean for External Relations
School of Business

University of Wisconsin Madison

Graduate School of Business
1155 Observatory Drive
Madison, Wisconsin 53706

Bureau of Business Research

November 25, 1983

Dear UW-Madison Student:

The Bureau of Business Research has been asked by the Chancellor's office to conduct a research study assessing the impact of the UW-Madison on the local economy. An important part of this study involves determining the amount of expenditures by University students to various types of Dane County businesses and organizations.

To collect this information, the enclosed questionnaire is being sent to a randomly selected sample of University students. Because only a small sample is being used, it is extremely important that each student who receives a questionnaire complete and return it. The information that you provide will be used to plan student programs and University budgets, stimulate cooperation between the campus and the community, and plan financial aid budgets.

The questionnaire asks you to recall your expenditures within Dane County during a designated month. It should take only ten minutes to complete. If you are a foreign student, you will be asked several additional questions regarding visits by your parents and family.

After completing the questionnaire, please return it to the Bureau of Business Research in the enclosed business reply envelope. All of the information which you provide will be held in confidence and only aggregate data will be published.

Thank you for your assistance.

Sincerely,

Artace Kelting

Artace Kelting
Project Assistant
Bureau of Business Research

AK:jgk

Enclosures

STUDENT QUESTIONNAIRE

INSTRUCTIONS: Please provide answers to the following questions to the best of your ability. You will not be identified in any way so confidentiality is assured.

Listed below are various types of businesses and organizations in Dane County. Please read through the list once, then go back and estimate the amount of expenditures you (or, if married, you and your family) made to each during the month circled below. Include both cash and credit expenditures. If you had no expenditures in a given category, put a 0 in that category. If you are not sure of the exact amount, please use your best estimate.

September 1983 October 1983 November 1983

Type of Dane County Business or Organization	Estimated Monthly Expenditure in Dane County
1. Telephone company	$_____
2. Madison Gas & Electric	$_____
3. Department, variety, discount, catalog stores	$_____
4. Apparel stores (clothing, shoes, accessories)	$_____
5. Automobile, truck, or motorcycle dealers (vehicle purchases only)	$_____
6. Service stations, garages, auto dealers (for repairs, parts, or gasoline, etc.)	$_____
7. Furniture and/or appliance stores	$_____
8. Eating and drinking places (restaurants, bars, etc.)	$_____
9. Food stores	$_____
10. Other retail stores (florists, gift stores, record shops, liquor stores, drug stores, hardware stores)	$_____
11. Guest lodging places (hotels, motels, tourist homes)	$_____
12. Amusement places (theatres, private golf clubs, amusement parks)	$_____
13. Local households (payments made directly to individuals for example, babysitters, cleaning, private parking)	$_____
14. Insurance companies (life, health, disability, automobile, accident, property, etc.)	
- Payments made to companies in Dane County	$_____
- Payments made to companies outside the county but where the salesman is a local resident	$_____

15. Financial institutions (banks, finance companies, savings and loans, credit unions, stock brokers, etc.)

    a) Mortgage payments:
    - Amount paid in interest..... $_____
    - Amount paid on principal..... $_____

    b) Service charges and interest (other than mortgage interest)..... $_____

16. Housing rental (for apartments, houses, etc.; do not include amounts paid for University of Wisconsin owned housing)

    - Rent paid to businesses..... $_____
    - Rent paid to individuals..... $_____
    - Rent paid to non-profit organizations (fraternities, sororities, co-operatives, etc. If you pay a semester rate, please estimate the portion paid monthly for rent.)..... $_____

17. Transportation companies located in Dane County (city or University buses, railroad or airline companies--only if ticket was purchased locally--other bus companies, taxis)..... $_____

18. City or county government (excluding property tax but including public parking fees, traffic tickets, public golf courses, public park fees, etc.)..... $_____

19. Churches and local charities..... $_____

20. Personal or business services (lawyers, doctors, barbers, beauty shops, optometrists, laundries, dry cleaners, etc.)..... $_____

21. Repair service or construction companies (plumbers, electricians, carpenters, etc.)..... $_____

22. What were your average balances in Dane County institutions in the following categories during the month circled at the beginning of this questionnaire?

    Checking account..... $_____
    Savings account (including certificates of deposits, etc.)..... $_____

23. Do you live in university-owned housing? Yes ___ No ___

24. Are you married? Yes ___ No ___ (SKIP TO QUESTION 25)

24a. If yes, how many family members including yourself live in your household? _____

24b. Is your spouse a student? Yes ___ (SKIP TO QUESTION 25)
No ___

24c. If no, does at least one of your spouse's parents live outside of Dane County? Yes ___ No ___ (SKIP TO QUESTION 25)

24d. If yes, how many times do you expect them to visit you and your spouse in Madison during the 1983-1984 school year? (Consider the school year to begin August 20, 1983 and end August 20, 1984.) _____ times

25. How many children, if any, do you have who are living with you? _____

25a. How many of these children, if any, attend public primary or second schools in Dane County? _____

26. Would you still be living in Dane County in 1983-1984 if you were not attending the University of Wisconsin-Madison? Yes ___ No ___

27. Where was your residence prior to enrolling at the UW-Madison?

Dane County ___
Other Wisconsin ___
Other U.S. ___
Foreign ___

28. What is your student status?

Foreign grad, undergrad, or professional ___
U.S. grad or professional ___
U.S. undergrad ___
Special ___

29. Are you currently a full- or part-time student?

Full-time ___
Part-time ___

30. How many friends or relatives <u>from outside Dane County</u> visited you during the month circled at the beginning of this questionnaire? (Do not include your parents or if married, your spouse's parents.) _____

30a. What was the average daily expenditure of these visitors? (Include transportation food, etc.) $_____

30b. What was the average length of stay (in days) of these visitors? ___

CONTINUED ON THE NEXT PAGE

31. Do you own your home and/or other property in Dane County?

Yes ___ No ___ (END OF QUESTIONS)

32. What is your estimated 1983 property tax? $_____

33. Did you purchase your home in 1983? Yes ___ No ___ (END OF QUESTIONS)

34. From whom did you buy your home?

an individual ___
a realtor/developer ___
a construction company ___
other ___

35. What was the approximate purchase price of your home? $_____

35a. About how much did you pay as realtor's fees? $_____

Thank you for your participation! Please return this questionnaire to the Bureau of Business Research in the enclosed business reply envelope.

Dear Student:

Last week a questionnaire seeking information on your monthly expenditures in Dane County was sent to you. Your name was selected at random from the University student list.

If you have already completed and returned it to us, please accept our sincere thanks. If not, please do so today. Because it has been sent to only a small, but representative, sample of students, it is extremely important that yours be included in the study if the results are to accurately represent student expenditures.

If you did not receive a questionnaire, or it was misplaced, please call Jean Knowles at the Bureau of Business Research (262-1550) and she will send you one today.

Sincerely,

Artace Kelting, Project Assistant
Bureau of Business Research

BEST COPY AVAILABLE

University of Wisconsin Madison

Graduate School of Business
1155 Observatory Drive
Madison, Wisconsin 53706

Bureau of Business Research

Dear Football Fan:

We need your assistance!

As you are well aware, football Saturdays bring tens of thousands of fans from all over the Midwest to the city of Madison. Your visit not only helps boost the football program, but it also affects local businesses. The University of Wisconsin Athletic Department has asked the Bureau of Business Research to measure that effect and we ask your help so that we can measure it accurately.

When you return home, please take a few minutes to complete the attached questionnaire. This survey asks you to answer a few questions about yourself, and recall the expenditures that were made within Dane County by yourself and those who came to Madison with you to attend the game. We realize that you may not remember your expenditures exactly, but your best estimate will still be helpful. You will not be asked to identify yourself in any way, so confidentiality is assured. A business reply envelope is enclosed for your convenience.

Thank you for your cooperation. Your contribution to this study is greatly appreciated.

Enjoy the game and your visit.

Sincerely,

William A. Strang
Director, Bureau of Business Research and
Associate Dean for External Relations

WAS:jgk

Enclosures

FOOTBALL FAN QUESTIONNAIRE

1. Do you live outside of Dane County?

   ____ Yes ____ No (If no, please discard questionnaire)

2. What game did you attend the weekend you received this questionnaire?

   _____ v. Wisconsin

3. When did you arrive in Madison to attend this weekend's football game?

   Time _____ Day _____

4. When did you leave Madison?

   Time _____ Day _____

5. How many football games do you plan to attend in Madison this season? (Include this game and any previous games you attended in your count)

   _____ games

6. Listed below are other sports events. How many of each do you normally attend in Madison each year?

Sport	Number of Games Attended
Basketball	_____
Hockey	_____
Other (please specify):	_____
_____	_____
_____	_____

The next few questions ask you to describe yourself. This will help the Athletic Department to more effectively serve its market.

7. Have you ever attended the U.W.-Madison?

   ____ Yes ____ No

7a. Do you have any children currently attending the U.W.-Madison?

   ____ Yes ____ No

8. What is your age category?

   ____ 0-24 ____ 35-44 ____ 55-64

   ____ 25-34 ____ 45-54 ____ 65 or over

9. What is your occupation (or what was it if you are now retired?)

   _____

10. Which of the following best describes your educational background?

    ____Some high school ____ Vocational/technical

    ____High school graduate ____ College graduate

    ____Some college or vocational/technical

11. Which income level best describes your total household income for 1982?

    ____ Less than $10,000 ____ $20,000-29,999 ____ $40,000-49,999

    ____ $10,000-19,999 ____ $30,000-39,999 ____ $50,000 or over

BEST COPY AVAILABLE

12. Consider the group you came to Madison with as your football "party." Including yourself, how many in your party were from outside of Dane County?

_____ (Number)

12a. How many in your party were from outside Wisconsin?

_____ (Number)

13. Listed below are various types of business in Dane County. Please read through the list once, then go back and estimate the amount of expenditure your party made to each during your visit. If you are not certain of the precise amount, your best estimate will be helpful. Please do not include expenditures made by those who live in Dane County if they were in your party.

Type of Dane County Business or Organization	Estimated Expenditure During Visit
(a) The University of Wisconsin (athletic tickets, on-campus meals, expenditures in the Memorial Union, University Bookstore, etc.).	$_____
(b) Transportation companies located in Dane County (city or University buses, railroad or airline companies--only if ticket was purchased locally--other bus companies, taxis)	_____
(c) Personal or business services (lawyers, doctors, barbers, beauty shops, optometrists, laundries, dry cleaners, etc.)	_____
(d) Department, variety, discount, catalog stores	_____
(e) Apparel stores (clothing, shoes, accessories)	_____
(f) Automobile dealers (car purchases only)	_____
(g) Service stations, garages, auto dealers (for repairs, parts, or gasoline, etc.).	_____
(h) Furniture and/or appliance stores	_____
(i) Eating and drinking places.	_____
(j) Other retail stores (florists, gift stores, record shops, drug stores, hardware stores, etc.).	_____
(k) Lodging places (hotels, motels, tourist homes).	_____
(l) Amusement places (theatres, private golf clubs, amusement parks, etc.).	_____
(m) City or county government (public parking fees, traffic tickets, public golf courses, public park fees, etc.)	_____
(n) Local households (payments made directly to individuals not in business, for example, babysitters, private parking).	_____
TOTAL VISIT EXPENDITURES	$_____

THANK YOU FOR YOUR VALUED ASSISTANCE!

(A BUSINESS REPLY ENVELOPE IS ENCLOSED FOR YOUR CONVENIENCE)

University of Wisconsin Madison

Graduate School of Business
1155 Observatory Drive
Madison, Wisconsin 53706

Bureau of Business Research

December 5, 1983

Dear Parent:

We need your assistance!

The UW-Madison is interested in learning how much of an effect it has on the economies of Dane County and the State of Wisconsin. One way in which the university affects the local economy is through visitors, and in particular through parent visits to UW-Madison students.

Please take a few minutes to complete the enclosed questionnaire which asks you a few questions about your plans for a visit and your approximate expenditures if you've visited recently. Since this survey is only being sent to a small random sample of parents, your participation is particularly important so that we may obtain useful information. Please complete the survey even if you have no plans to visit Madison.

A business reply envelope has been provided for your convenience. Thank you for your time and assistance.

Sincerely,

William A. Strang
Director, Bureau of Business Research and
Associate Dean for External Relations

WAS:jgk

Enclosures

BUREAU OF BUSINESS RESEARCH SURVEY

Parent Visits to the UW-Madison

1. How many sons and/or daughters do you have who are currently attending school at the University of Wisconsin-Madison? _____

2. Consider the 1983-1984 school year to begin and end about August 20. How many times do you plan to travel to Madison to visit your son(s) and/or daughter(s) during this time period? _____

3. Do you live outside of Wisconsin?

___ Yes ___ No

4. Have you visited since the school year started?

___ Yes ___ No → (END OF QUESTIONS)

5. Listed below are various types of businesses and organizations in Dane County, where Madison is located. Please read through the list once, then go back and estimate the amount of expenditures you and others who accompanied you made during the visit circled below. If you are not sure of the exact amount, please use your best estimate.

Type of Dane County Business or Organization	First Visit of School Year — Estimated Expenditure During Visit	Most Recent Visit of School Year — Estimated Expenditure During Visit
a. The University of Wisconsin (athletic tickets, on-campus meals, expenditures in the Memorial Union, University Bookstore, etc.)	$ _____	$ _____
b. Transportation companies located in Dane County (city or University buses, railroad or airline companies--only if ticket was purchased locally--other bus companies, taxis)	_____	_____
c. Personal or business services (lawyers, doctors, barbers, beauty shops, optometrists, laundries, dry cleaners, etc.)	_____	_____
d. Department, variety, discount, catalog stores	_____	_____
e. Apparel stores (clothing, shoes, accessories)	_____	_____
f. Automobile, truck or motorcycle dealers (vehicle purchases only)	_____	_____
g. Service stations, garages, auto dealers (for repairs, parts, or gasoline, etc.)	_____	_____

Continued on reverse side

Type of Dane County Business or Organization	Estimated Expenditure During Visit
h. Furniture and/or appliance stores.....	_____
i. Eating and drinking places.....	_____
j. Other retail stores (florists, gift stores, record shops, liquor stores, drug stores, hardware stores, etc.).....	_____
k. Lodging places (hotels, motels, tourist homes).....	_____
l. Amusement places (theatres, private golf clubs, amusement parks, etc.).....	_____
m. City or county government (public parking fees, traffic tickets, public golf courses, public park fees, etc.).....	_____
n. Local households (payments made directly to individuals not in business, babysitters, private parking).....	_____
TOTAL VISIT EXPENDITURES.....	$ _____

6. For the visit circled above, did you also plan your trip to Madison around a particular event or business purpose which was <u>not</u> sponsored by the UW-Madison?

___ Yes ___ No

↓

6a. If yes, was this event or business purpose the main reason for your visit to Madison?

___ Yes ___ No

Thank you for your valued participation!

Please return this survey in the enclosed business reply envelope.

TELEPHONE SURVEY CODING SHEET

Undergraduates with Dane County Permanent Addresses

ID	PHONE	CALLS 1	2	3	4	5	Parents Outside Dane? Yes	No	Visit

INSTRUCTIONS

1. Use the following procedure to select students for calls:

2. Consult the sheet entitled "RESULT CODES" to record each call with a code and time period.

3. Calls should be completed by April ____.

4. Here's what to say:

   A. Hello, my name is (your name) and I'm calling from the University of Wisconsin's Bureau of Business Research. Is this (student)?

      YES - continue

      NO - When can I call back to talk to him/her?

      MAKE AN APPOINTMENT IF POSSIBLE

   B. We'd like to ask you one or two brief questions to help with a study we're conducting on parent visits to the UW-Madison. First, does at least one of your parents live outside of Dane County?

      YES - record answer and continue

      NO - record answer but do not continue, thank student for cooperating.

   C. How many times do you expect them to visit you between August 20, 1983 and August 20, 1984?

      - record answer and thank student cooperating.

5. If students ask why you picked them explain that they were randomly selected from a list provided by the registrar's office.

   If students want to know more about the study explain that we're trying to estimate the total number of parent visits to the UW-Madison.

RESULT CODES

C Successful call

NW Non-working number
SUBSTITUTE

NA No answer
KEEP TRYING UNTIL 5 CALLS HAVE BEEN MADE AT DIFFERENT TIMES.
DO NOT SUBSTITUTE

NP No phone or number unlisted
SUBSTITUTE

SU Student unavailable
ASK FOR APPROPRIATE TIME TO CALL OR MAKE AN APPOINTMENT.
Keep trying until 5 calls have been made at different times.

REF Refusal
DO NOT SUBSTITUE

WN Wrong number provided
CALL STUDENT INFORMATION (262-1234)
If no number, SUBSTITUTE

SM Student moved
IF NEW NUMBER OBTAINABLE FROM ROOMMATE OR STUDENT INFORMATION (262-1234), CALL NEW NUMBER
KEEP TRYING UNTIL 5 CALLS HAVE BEEN MADE AT DIFFERENT TIMES.

IF NO NEW NUMBER IS AVAILABLE, PUT "NP" AND SUBSTITUTE

B Busy
KEEP TRYING UNTIL 5 CALLS HAVE BEEN MADE AT DIFFERENT TIMES.
DO NOT SUBSTITUTE

INC Incomplete
DO NOT SUBSTITUTE

TIMING OF CALLS

1) M-F 9 - Noon
2) M-F Noon - 3 P.M.
3) M-F 3 P.M. - 6 P.M.
4) M-F 6 P.M. - 9 P.M.
5) Saturday and Sunday, any time

Note: Call after 9 p.m. only if instructed to do so by the student's roommate.

University of Wisconsin Madison

Graduate School of Business
1155 Observatory Drive
Madison, Wisconsin 53706

Bureau of Business Research

December 5, 1983

Dear Student:

The Bureau of Business Research has been asked by the Chancellor's Office to conduct a reasearch study assessing the impact of the U.W.-Madison on the local economy. One part of the study involves determining the expenditures made by parents and family of U.W. students who live outside the United States and travel to Madison for a visit.

To collect his information, the enclosed questionnaire is being sent to a random sample of foreign students. Your participation in this study will be greatly appreciated.

The questionnaire asks you several questions concerning whether or not your parents or family visited you here in Madison. It should take only a few minutes to complete. Please complete the questionnaire even if you don't expect your parents or family to visit.

Thank you for your valued assistance.

A business reply envelope has been provided for your convenience.

Sincerely,

William A. Strang
Director, Bureau of Business Research and
Associate Dean for External Relations

WAS:Jgk

Enclosures

Bureau of Business Research Survey

Parents Visits to Foreign Students at the UW-Madison

1. Do your parents or family live outside the U.S.?

   ____ Yes ____ No

2. Were you a student at the UW-Madison during the 1982-1983 school year?

   ____ Yes ____ No (If your answer to Question 2 is NO, please discard questionnaire.)
   ↓

3. Consider the 1982-1983 school year as running from August 20, 1982 to August 20, 1983. How many times did your parents or family visit you in Madison during this time period?

   _____ times

4. If they visited you in Madison at least once during this time period, please estimate the amount they spent in Dane County during a typical visit. Include transportation if purchased locally, food, lodging, gifts, etc.

   $_____

Thank you for your cooperation. Please return this questionnaire in the enclosed business reply envelope.

University of Wisconsin Madison

Graduate School of Business
1155 Observatory Drive
Madison, Wisconsin 53706

Bureau of Business Research

December 5, 1983

Dear Student:

The Bureau of Business Research has been asked by the Chancellor's Office to conduct a research study assessing the economic impact of the UW-Madison on the state and local economy. One part of the study involves determining the frequency of parent visits to students.

Please take a minute or two to complete the enclosed questionnaire which asks three brief questions about recent or potential visits to Madison by your parents. Please complete the survey even if your parents live in Dane County or if they will not be visiting. Because this survey has been sent to a small, randomly selected sample, your reply is crucial if we are to obtain accurate information.

A business reply envelope is enclosed for your convenience. Thank you for your participation.

Sincerely,

William A. Strang
Director, Bureau of Business Research and
Associate Dean for External Relations

WAS:jgk

Enclosures

Bureau of Business Research Survey

Parent Visits to the UW-Madison

1. Does <u>at least one</u> of your parents live outside of Dane County?

   _____ Yes ↓ _____ No (End of Questions)

2. If yes, how many times do you expect them to visit you in Madison during the 1983-1984 school year? (Consider the school year to begin August 20, 1983 and end August 20, 1984.)

   _____ times

3. What is your student status?

____ Undergraduate	____ Resident	____ Full-time
____ Graduate or Professional	____ Non-resident U.S.	____ Part-time
	____ Non-resident Foreign	____ Special Student

Thank you for your participation. A business reply envelope is enclosed for your convenience.

University of Wisconsin Madison

Graduate School of Business
1155 Observatory Drive
Madison, Wisconsin 53706

Bureau of Business Research

Dear Academic Dean or Director:

The Chancellor's office has requested the Bureau of Business Research to conduct a major research project to assess the impact of the U.W.-Madison on the state and local economies. One segment of this study involves assessing the number and types of visitors to the university.

In order to collect this information, a survey is being sent to the heads and chairpersons of every U.W.-Madison department. We would greatly appreciate receiving your support for this study, and ask you to encourage those individuals within your jurisdiction to complete the questionnaire they will be receiving. A copy is enclosed for you to review.

Thank you for your cooperation. Please direct any questions you may have to me at the Bureau of Business Research.

Sincerely,

Bill Strang

William A. Strang
Director

WAS:jgk

Enclosure

University of Wisconsin Madison

Graduate School of Business
1155 Observatory Drive
Madison, Wisconsin 53706

Bureau of Business Research

Dear Department/Program Head:

The Chancellor's office has requested the Bureau of Business Research to conduct a major research project to evaluate the economic impact of the U.W.-Madison on the state and local economies. One segment of this study involves assessing the number and types of visitors to the university.

In order to collect this information, the enclosed survey has been sent to every U.W.-Madison department. Your participation will be greatly appreciated.

This survey should be completed by the individual in your department who is most likely to have had personal contact with visitors. We realize that hard numbers are unavailable; your best estimate will still be valuable.

Although every effort has been made to avoid duplication, it is possible that more than one individual in your department has received this mailing. If this should be the case, please combine surveys.

Thank you once again for your assistance.

Sincerely,

Bill Strang

William A. Strang, Director and
Associate Dean for External Relations

WAS:jgk

Enclosure

University of Wisconsin Madison

Graduate School of Business
1155 Observatory Drive
Madison, Wisconsin 53706

Bureau of Business Research

Dear Department Secretary:

At the request of Chancellor Shain, the Bureau of Business Research is conducting a large-scale study to assess the economic impact of the UW-Madison on the local economy. So that we may determine how many individuals visit the university each year, a brief survey has been sent to your department head.

Due to the importance of this research, we request your cooperation in ensuring that this survey is completed promptly. If your department has misplaced the questionnaire, please call Jean Knowles at 262-1550 for a replacement.

Thank you for your assistance.

Sincerely,

William A. Strang

William A. Strang
Director

WAS:jgk

Bureau of Business Research Survey:

Visitors to the UW-Madison

Department _____ Survey Number _____

Respondent _____ Phone # _____

INSTRUCTIONS

Various types of individuals who might have visited your department during the 1982-83 academic year from outside of Dane County are listed on the next page.

For each category, please provide your best estimate of the total number of visitors to your department from outside of the county during the year, and the average length of their visit in days.

Please use only one category to describe a visitor. If visitors can be described by more than one category (e.g., alumni attending a conference) choose the category that applies to the primary purpose of the visit.

This survey should be completed by the individual in your department who is most likely to have personal contact with visitors.

PART 1: VISITORS FROM OUTSIDE DANE COUNTY DURING THE 1982-83 ACADEMIC YEAR

Purpose of Visit	Number	Average Length of Visit *
Conference/seminar attenders		
Speakers/lecturers/performers		
Visiting scholars/scientists/artists/medical practitioners/educators (not on UW-Madison payroll)		
Visiting or adjunct faculty/staff (on UW-Madison payroll)		
Prospective students		
Candidates for faculty/staff positions		
Placement interviewers		
Business/industry representatives		
Foundation/non-profit agency representatives		
U.S. government agency representatives		
Foreign government agency representatives		
Technical advisors/consultants		
Sales/repairpeople		
Visiting alumni		
Visiting athletes/athletic staff		
Patients		
Patient visitors		
Other (please specify):		
_____		
_____		
_____		

Approximately what percentage of these visitors are from outside of Wisconsin? _____

* Please indicate average length of visit in days. Consider brief visits as one day.

CONTINUED ON NEXT PAGE

PART 2: VISITOR LODGING

Listed below are various lodging options which visitors may choose or have arranged for them while they are in Madison. Based on all your visitors (as indicated above) please provide a percentage estimate for each option. If you are not sure, your best guess will still be helpful.

Type of Lodging	Percentage
Hotel/motel	_____
Rented house/apartment.	_____
University facilities	_____
(Memorial Union, Union South, Wisconsin Center, Friedrick Center, University Houses)	
Guest at private house/apartment.	_____
No overnight lodging.	_____
Other (please specify):	
_____	_____
_____	_____
_____	_____
_____	_____
Total:	100%

Thank you for your participation. Please return this survey by campus mail to the Bureau of Business Research, 110 Commerce.

University of Wisconsin Madison

Graduate School of Business
1155 Observatory Drive
Madison, Wisconsin 53706

Bureau of Business Research

December 15, 1983

Dear Program/Department Head:

Several weeks ago you were sent a questionnaire which requested estimates of visitors to your department during the 1982-1983 school year. If you have already returned the survey, please accept our sincerest thanks. We recognize that it was not a simple process to complete and appreciate your time and effort. Thus far, the response rate has been very good.

If you have not yet returned the survey questionnaire, please use the time during semester break to do so. It is especially important that our response rate be as high as possible to minimize bias in our estimates for the total campus. If you need a duplicate questionnaire, please call Jean Knowles at 262-1550.

The data gathered will be used as part of a large scale study requested by Chancellor Shain that assesses the impact of the University on the local economy. We expect a final document to be ready in late April.

If you have any further questions, please call me at 262-1550. Thank you.

Sincerely,

Bill Strang

William A. Strang
Director, Bureau of Business Research and
Associate Dean for External Relations

WAS:jgk

University of Wisconsin Madison

Graduate School of Business
1155 Observatory Drive
Madison, Wisconsin 53706

Bureau of Business Research

Dear Program Coordinator:

Chancellor Shain has requested the Bureau of Business Research to conduct a major research project to evaluate the economic impact of the UW-Madison and UW-Extension on the state and local economies. One segment of this study involves determining the spending patterns of visitors to university-related events.

We would greatly appreciate your assistance in conducting this research. Chancellor Boyle fully supports this project and has requested the cooperation of all program coordinators. Extension records show that you will be conducting a program at an extension facility in the next few days. We ask that you distribute a short questionnaire in your program, and either collect the completed surveys or instruct program participants to submit them to the front desk at the facility.

The surveys will be given to you at the facility along with a short set of instructions. The entire process should take no longer than ten minutes.

Your cooperation is deeply appreciated. Thank you for contributing to this research.

Sincerely,

William A. Strang, Director
Bureau of Business Research and
Associate Dean for External Relations

WAS:jgk

The School of Business
University of Wisconsin-Madison

Office of Associate Dean
for External Relations
1155 Observatory Drive
Madison, WI 53706
608/262-1550

M E M O R A N D U M

TO: UW-Extension Conference Center
Program Coordinators

FROM: William A. Strang, Director

SUBJECT: Guidelines for Distributing Surveys to Program Participants

Several days ago you received a letter requesting your assistance with a study being conducted by the Bureau of Business Research. As you know from the letter our research design requires that your program participants complete a brief questionnaire assessing their expenditures during a twenty-four period while in Madison. We appreciate your cooperation with this project and ask that you follow a few simple guidelines in distributing the questionnaire:

1. Questionnaires should be given to all program participants. Those who live within Dane County are told in the questionnaire instructions to return the questionnaire without completing it. Please remind them verbally of this instruction.

2. Allow about ten minutes for questionnaire completion.

3. Questionnaires should be distributed at the following times:

   ONE DAY PROGRAMS: Towards the end of the program

   TWO DAY PROGRAMS: Any time during the second day of the program

   THREE DAY PROGRAMS: Any time during the third day of the program

   LONGER PROGRAMS: At your convenience, but not during the first day

4. Please tell program participants which category to check for question 3.

5. If it is convenient, please collect questionnaires yourself. Otherwise, ask program participants to give them to the front desk personnel at the facility you are using. Please do the same if you should collect them. We would appreciate the return of unused questionnaires.

Thank you once again for your assistance.

jgk

University of Wisconsin Madison

Graduate School of Business
1155 Observatory Drive
Madison, Wisconsin 53706

Bureau of Business Research

Dear Program Participant:

The Bureau of Business Research at the University of Wisconsin-Madison is conducting a major study to determine the spending patterns of visitors to the university and the resulting impact on the local economy. We would greatly appreciate your assistance on this project.

Please take a few minutes to complete the attached questionnaire as accurately as you can. All information that you provide will be held in strictest confidence.

Thank you for your valued participation.

Sincerely,

William Strang

William Strang, Director

WAS:jgk

Bureau of Business Research Survey:

Expenditures by U.W.-Extension Conference Center Participants

INSTRUCTIONS: Please complete this questionnaire only if you live outside of Dane County. If you live within the county limits please return the questionnaire to your program coordinator.

1. Do you live outside of Wisconsin?

   ____ Yes ____ No

2. Where did you receive this questionnaire?

   ____ Lowell Hall ____ Wisconsin Center

   ____ Friedrick Center ____ Other (please specify)_____

3. Who sponsored the program that you have been attending?

   ____ UW-Madison department or agency ____ UW-Extension Communications

   ____ UW-Ext. Management Institute ____ UW-Ext. Health & Human Services

   ____ UW-Extension Engineering ____ Other (please specify)_____

4. What type of lodging have you been using?

   ____ No overnight lodging

   ____ Hotel/motel

   ____ University facilities (Lowell Hall, Memorial Union, Union South, Friderick Center)

   ____ Guest at private home/apartment

   ____ Other (please specify)_____

5. How long is the program you have been attending? ____ day(s)

6. Listed on the next page are various types of businesses in Dane County. Please read through the list once, then go back and estimate the amount of expenditures you made during the appropriate time period (described below). If you are not certain of the exact amount, your best estimate will be helpful.

   If your program is one day long, estimate the expenditures you made or expect to make in Dane County during the day you received this questionnaire. Consider the 24 hour period to begin at 2:00 a.m.

   If your program is more than one day long, estimate the expenditures you made in Dane County during the day prior to receiving this questionnaire. For example, if you received this questionnaire on a Thursday, estimate your expenditures for Wednesday. Consider the 24 hour period to begin at 2:00 a.m. If you were not in Dane County during the day prior to receiving this questionnaire, please complete it for the day you received it.

Type of Dane County Business or Organization	Estimated Expenditure During 24-Hour Period
(a) The University of Wisconsin (athletic tickets, on-campus meals, expenditures in the Memorial Union, University Bookstore, etc.).	$_____
(b) Transportation companies located in Dane County (city or University buses, railroad or airline companies--only if ticket was purchased locally--other bus companies, taxis)	_____
(c) Personal or business services (lawyers, doctors, barbers, beauty shops, optometrists, laundries, dry cleaners, etc.)	_____
(d) Department, variety, discount, catalog stores	_____
(e) Apparel stores (clothing, shoes, accessories)	_____
(f) Automobile, truck and motorcycle dealers (vehicle purchases only)	_____
(g) Service stations, garages, auto dealers (for repairs, parts, or gasoline, etc.).	_____
(h) Furniture and/or appliance stores	_____
(i) Eating and drinking places.	_____
(j) Other retail stores (florists, gift stores, record shops, drug stores, hardware stores, etc.).	_____
(k) Lodging places (hotels, motels, tourist homes).	_____
(l) Amusement places (theatres, private golf clubs, amusement parks, etc.).	_____
(m) City or county government (public parking fees, traffic tickets, public golf courses, public park fees, etc.)	_____
(n) Local households (payments made directly to individuals not in business, for example, babysitters, private parking).	_____
TOTAL EXPENDITURES FOR 24-HOUR PERIOD	$_____

7. On what day of the week were these expenditures made?

_____

THANK YOU FOR YOUR VALUED PARTICIPATION!

This completed questionnaire should be given to the front desk at either Lowell Hall, Friedrick Center, or Wisconsin Center, or given to your program coordinator.

University of Wisconsin Madison

Graduate School of Business
1155 Observatory Drive
Madison, Wisconsin 53706

Bureau of Business Research

Dear Graduate School of Banking Participant:

The Bureau of Business Research at the University of Wisconsin-Madison is conducting a major study to determine the spending patterns of visitors to the university and the resulting impact on the local economy. We would greatly appreciate your assistance on this project.

Please take a few minutes to complete the attached questionnaire as accurately as you can. All information that you provide will be held in strictest confidence. A business reply envelope is provided for your convenience.

Thank you for your valued participation.

Sincerely,

William Strang

William Strang, Director

Business Visitor Questionnaire

Listed below are various types of businesses in Dane County. Please read through the list once, then go back and estimate the amount of expenditure you made to each on the day(s) circles below. If you are not certain of the precise amount, your best estimate will be helpful.

SUN MON TUE WED THU FRI SAT

(Note: For purposes of this survey, the 24 hour period begins at 2:00 AM)

Type of Dane County Business or Organization	Estimated Expenditure in 24 Hour Period
(a) The University of Wisconsin (athletic tickets, on-campus meals, expenditures in the Memorial Union, University Bookstore, etc.).	$_____
(b) Transportation companies located in Dane County (city or University buses, railroad or airline companies--only if ticket was purchased locally--other bus companies, taxis)	_____
(c) Personal or business services (lawyers, doctors, barbers, beauty shops, optometrists, laundries, dry cleaners, etc.)	_____
(d) Department, variety, discount, catalog stores	_____
(e) Apparel stores (clothing, shoes, accessories)	_____
(f) Automobile dealers (car purchases only)	_____
(g) Service stations, garages, auto dealers (for repairs, parts, or gasoline, etc.).	_____
(h) Furniture and/or appliance stores	_____
(i) Eating and drinking places.	_____
(j) Other retail stores (florists, gift stores, record shops, drug stores, hardware stores, etc.).	_____
(k) Lodging places (hotels, motels, tourist homes).	_____
(l) Amusement places (theatres, private golf clubs, amusement parks, etc.).	_____
(m) City or county government (public parking fees, traffic tickets, public golf courses, public park fees, etc.)	_____
(n) Local households (payments made directly to individuals not in business, for example, babysitters, private parking).	_____
TOTAL VISIT EXPENDITURES	$_____

APPENDIX B

Estimation of the Size of the University Community

Students[1]

Fall 1983 enrollment	43,075
Number of married students (13%)	5,600
Number of married students with spouses who are also students (33%)	1,867
Number of households with two married students (.5 x 1,867)	933
Number of households with one married student (5,600 - 1,867)	3,733
Number of married student households (933 + 3,733)	4,666
Average household size	2.75
Size of married student households (4,666 x 2.75)	12,832
Number of single students (43,075 - 5,600)	37,475
TOTAL SIZE OF STUDENT COMMUNITY	50,307

Employees[2]

Number of employee households	11,911
Average household size	2.5
TOTAL SIZE OF EMPLOYEE COMMUNITY	29,778
TOTAL SIZE OF UNIVERSITY COMMUNITY	80,085

[1]Enrollment figure from UW-Madison Enrollment Report. Other estimates based on responses to the student survey described in Chapter 4.

[2]The procedure used to determine the number of employee households is described in Chapter 3, footnote 4. Average household size based on responses to the employee survey described in Chapter 3.

APPENDIX C

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APPENDIX D
Industry Classifications

Industries	Two-Digit SIC Codes
Agriculture, Forestry, Fisheries, Mining	01-14
Construction	15-17, 76
Manufacturing	20-39
Transportation, Communication, Utilities	40-49
Wholesale Trade	50-51
Building Materials and Garden Supplies	52
General Merchandise Stores	53
Food Stores	54
Automotive Dealers and Service Stations	55, 75
Apparel Stores	56
Furniture and Home Furnishings Stores	57
Eating and Drinking Places	58
Miscellaneous Retail	59
Finance, Insurance, and Real Estate	60-67
Hotels and other Lodging Places	70
Personal and Business Services	72, 73, 80-83, 89
Amusement and Recreation Services	78, 79, 84
Local Government	91-96
Local Households	88

APPENDIX E

Expansion of the Local Credit Base

In general, the total change in demand deposits (loans plus original deposits) can be written as follows:

$$\text{Change in demand deposits} = \left[\frac{1}{r(1 + t + g + f) + k}\right]$$

In December, 1984:

r = .02 (reserves/deposits)

t = 6.0 (time plus savings deposits/demand deposits)

g = .03 (government deposits/demand deposits)

f = .04 (foreign deposits/demand deposits)

k = .4 (currency/demand deposits)

Therefore:

The change in demand deposits equals 1.85 times the initial new deposit. For purposes of this study, we view University-related deposits as initial new deposits.

APPENDIX F

Door County Input-Output Table

Each entry in the following tables represents sales or purchases of one industry with relation to another industry. To determine the total impact of one dollar of sales in a specific industry, one reads down the column pertaining to that industry. For example, $1.00 of expenditures to agriculture results in $1.32 of agricultural sales, $.03 of construction sales, $.01 of manufacturing sales, $.09 of transportation, communication, and utility sales, etc. In total, one dollar of expenditures to agriculture generates $3.02 of sales to the community through both direct and indirect effects.

By reading down each column, the effect of each industry on the community can be determined. However, to ascertain the total impact on a specific industry, one reads across. For example, column 2 indicates that for every $1.00 of expenditures to construction, agriculture gains $.02 in sales; column 3 shows that $1.00 spent in manufacturing results in $.12 of agricultural sales.

All multipliers consider the recycling of dollars throughout the many industries in the local economy.

DIRECT AND INDIRECT ACTIVITY PER EXPORT DOLLAR
DOOR COUNTY ECONOMY, 1968

	1	2	3	4	5	6
1. Agriculture	1.3221	.0183	.1247	.0041	.0030	.0016
2. Construction	.0327	1.3439	.0149	.0314	.0155	.0121
3. Manufacturing	.0099	.0323	1.1010	.0084	.0091	.0037
4. Trans, Comm, Util	.0922	.0871	.0483	1.1541	.0515	.0435
5. Wholesalers	.0657	.0721	.0227	.0407	1.0227	.0164
6. Bldg Mat, Farm Equip	.0423	.1580	.0144	.0310	.0150	1.0080
7. Pers & Bus Serv	.0513	.0218	.0162	.0301	.0144	.0092
8. Fin, Ins, Real Estate	.0457	.0526	.0232	.0404	.0327	.0171
9. Genl Mdse Stores	.0465	.0419	.0224	.0313	.0244	.0142
10. Food Stores	.1138	.0920	.0544	.0763	.0587	.0347
11. Auto Sales & Serv	.1071	.1159	.0513	.1016	.0582	.0445
12. Apparel Stores	.0142	.0117	.0067	.0098	.0073	.0043
13. Furn & Appl Stores	.0085	.0088	.0040	.0059	.0045	.0026
14. Eat & Drink Places	.0295	.0238	.0144	.0205	.0158	.0090
15. Other Retail	.0539	.0417	.0255	.0392	.0274	.0175
16. Lodging Places	.0041	.0034	.0021	.0031	.0022	.0016
17. Amusement Places	.0035	.0027	.0017	.0023	.0018	.0011
18. Local Govt	.0574	.0321	.0233	.0814	.0215	.0175
19. Local Hshlds	.9243	.7055	.4410	.6171	.4767	.2811
TOTAL MULTIPLIER	3.0247	2.8656	2.0112	2.3287	1.8624	1.5397

DIRECT AND INDIRECT ACTIVITY PER EXPORT DOLLAR
DOOR COUNTY ECONOMY, 1968

	7	8	9	10	11	12
1. Agriculture	.0056	.0056	.0021	.0079	.0033	.0025
2. Construction	.0326	.0409	.0146	.0129	.0110	.0181
3. Manufacturing	.0131	.0113	.0041	.0378	.0166	.0060
4. Trans, Comm, Util	.1124	.1259	.0522	.0312	.0458	.0839
5. Wholesalers	.0597	.0555	.0248	.0305	.2332	.0207
6. Bldg Mat, Farm Equip	.0281	.0336	.0139	.0093	.0096	.0129
7. Pers & Bus Serv	1.0388	.0424	.0151	.0078	.0179	.0175
8. Fin, Ins, Real Estate	.0560	1.0938	.0253	.0101	.0258	.0361
9. Genl Mdse Stores	.0519	.0519	1.0193	.0112	.0164	.0212
10. Food Stores	.1229	.1244	.0471	1.0271	.0399	.0518
11. Auto Sales & Service	.1222	.1502	.0504	.0268	1.0842	.0516
12. Apparel Stores	.0152	.0155	.0059	.0034	.0051	1.0064
13. Furn & Appl Stores	.0091	.0100	.0035	.0021	.0030	.0039
14. Eat & Drink Places	.0329	.0388	.0125	.0070	.0106	.0149
15. Other Retail	.0587	.0647	.0266	.0156	.0208	.0263
16. Lodging Places	.0056	.0066	.0022	.0012	.0020	.0019
17. Amusement Places	.0038	.0038	.0015	.0008	.0012	.0016
18. Local Govt	.0438	.0617	.0215	.0120	.0166	.0241
19. Local Hshlds	.9978	1.0087	.3824	.2196	.3240	.4201
TOTAL MULTIPLIER	2.8102	2.9453	1.7250	1.4743	1.8870	1.8215

DIRECT AND INDIRECT ACTIVITY PER EXPORT DOLLAR
DOOR COUNTY ECONOMY, 1968

	13	14	15	16	17	18	19
1. Agriculture	.0022	.0125	.0018	.0046	.0159	.0129	.0074
2. Construction	.0170	.0202	.0149	.0326	.0274	.0984	.0453
3. Manufacturing	.0044	.0146	.0037	.0085	.0095	.0288	.0143
4. Trans, Comm, Util	.0471	.0998	.0448	.1112	.1206	.1878	.1257
5. Wholesalers	.0205	.1406	.0421	.0707	.0831	.0856	.0642
6. Bldg Mat, Farm Equip	.0128	.0189	.0099	.0300	.0373	.0463	.0376
7. Pers & Bus Serv	.0143	.0441	.0160	.0612	.0561	.0410	.0394
8. Fin, Ins, Real Estate	.0208	.0571	.0174	.0710	.0442	.0493	.0468
9. Genl Mdse Stores	.0210	.0287	.0169	.0361	.0416	.0474	.0731
10. Food Stores	.0514	.0803	.0416	.0988	.0883	.1068	.1795
11. Auto Sales & Serv	.0534	.0713	.0443	.0814	.0861	.1155	.1598
12. Apparel Stores	.0064	.0087	.0053	.0101	.0100	.0202	.0221
13. Furn & Appl Stores	1.0038	.0058	.0047	.0085	.0061	.0128	.0132
14. Eat & Drink Places	.0132	1.0185	.0105	.0234	.0225	.0436	.0456
15. Other Retail	.0255	.0373	1.0187	.0434	.0483	.0580	.0793
16. Lodging Places	.0018	.0026	.0019	1.0028	.0029	.0037	.0062
17. Amusement Places	.0016	.0022	.0012	.0023	1.0024	.0032	.0055
18. Local Govt	.0195	.0400	.0172	.0651	.0578	1.0356	.0470
19. Local Hshlds	.4176	.5673	.3143	.6092	.6426	.8356	1.4584
TOTAL MULTIPLIER	1.7543	2.2705	1.6262	2.3699	2.4027	2.8334	2.4704

APPENDIX G

Benefits to the State Provided by the University of Wisconsin Hospital and Clinics

This appendix summarizes the qualitative intangibles that accrue to the people of Wisconsin as the Center for Health Sciences fulfills its mission to provide:

- Comprehensive high quality patient care;
- A setting for the education, training and development of future health care professionals;
- A clinical environment for the conduct of research; and
- Community service health programs for the promotion of the health of Wisconsin residents.

Approximately 14,500 Wisconsin residents each year are treated in the hospital's medical, surgical and critical care service units; 245,000 outpatient visits are also scheduled in the institution's 70 primary and specialty care clinics. Approximately 85 percent of all patients seen at UWHC are Wisconsin residents.

- Comprehensive cancer care

Funded by the National Cancer Institute and respected as a world leader in cancer research, prevention, diagnosis and treatment, the Wisconsin Clinical Cancer Center (WCCC) was the first regional cancer center in the country; today it is one of only 21 such centers nationwide; at UWHC, its medical staff engage in some of the most advanced clinical research of cancer prevention and treatment underway today.

- A comprehensive regional transplant program

UWHC houses the nation's third largest kidney transplant center, one of only seven liver transplant centers, one of 20 heart transplant centers, one of the country's largest pancreatic transplant centers, and one of only 50 available bone marrow transplant centers. The comprehensiveness of the UWHC transplantation program enables Wisconsin residents to acquire life-saving procedures without the disruption of traveling to tertiary care medical centers outside the state. It must also be noted that at the long-established heart and liver transplant centers in Pittsburgh, Minnesota and Stanford, months-long waiting lists can prevent Wisconsin patients from receiving critically-needed transplants.

- Comprehensive critical care services

Certified by the Southern Wisconsin Emergency Medical Services Council as a regional critical care facility, UWHC provides extensive care for patients suffering from critical illnesses, severe burns and multiple-trauma injuries. The Burn Unit is one of only two in Wisconsin.

- The eighth largest Eye Bank in the nation

Established in 1969 with help from the Madison Lions Club, the Madison Eye Bank at UWHC procures corneas for needy recipients, conducts research and presents educational programs. The Eye Bank enjoys a success rate that matches the national average of 85 to 90 percent.

APPENDIX G continued

- A regional Poison Control and Drug Information Center

Both the lay public and professionals around the state have promptly received information about medications, poisons or chronic exposure to toxins from pharmacists who staff the UWHC Poison Control and Drug Information Center round the clock.

- Training the state's future medical and health care professionals

Literally hundreds of the state's future doctors and health care professionals receive their education and training annually at UWHC through residencies, clerkships and other clinical experiences.

In addition to the third and fourth year UW Medical School students who receive clinical training at the hospital, another 425 residents each year comprise the UWHC house staff. Also each year about 90 UW Pharmacy School graduate students, 50 Nursing School students, and 170 students in the medical technology, physicians' assistants, physical and occupational therapy programs of the School of Allied Health Professions rotate through the hospital's various services.

More than half of all UW Medical School graduates ultimately practice in Wisconsin. The majority of all students in the UW-Madison Schools of Health Sciences who prepare for health professions work in the state.

- Sharing health care knowledge and advances with health professionals throughout Wisconsin

Recognizing the potential strength that lies in collaboration, the schools of the Center for Health Sciences of the UWHC work closely with local institutions and health professionals throughout Wisconsin to help meet our communities' health care needs.

For example, the hospital provides planning services to help strengthen rural health care. To promote the continued vitality of rural hospitals, UWHC 11 years ago joined the Rural Wisconsin Hospital Cooperative and has since provided support and assistance to local initiatives.

- The UWHC Emergency Medical Services (EMS) Program

The EMS Program, established in 1972, was the first of its kind in Wisconsin. Specialists in the program work with respiratory therapists, pharmacists, physicians' assistants, doctors and nurses at 12 southwestern Wisconsin hospitals to prepare them for teamwork in emergencies. The Program includes on-site instruction in cardiopulmonary resuscitation, also available at UWHC to Dane County residents; advanced life support training; and undergraduate medical education in emergency procedures.

- Community Health Education Programs and Services

Each month, Dane County residents may attend any of three health education lectures developed each month as part of UWHC's free Perspectives on Health series. The hospital's Community Health Education Department also offers a variety of in-depth workshops and classes every year through its Health Promotion program.